2.11 Noise

This section of the EIR describes the existing ambient noise environment, including the sources of noise, in the County in relation to noise sensitive land uses. In addition, relevant local noise standards and guidelines are described. This section is based on the review of the Noise Technical Report for the County of San Diego General Plan Update (PBS&J 2009), County of San Diego General Plan, Noise Element Background Report (DPLU 2007d), and the County of San Diego Guidelines for Determining Significance, Noise (DPLU 2009c).

A summary of the impacts associated with noise identified in Section 2.11.3 is provided below.

Noise Summary of Impacts

Issue Number	Issue Topic	Project Direct Impact	Project Cumulative Impact	Impact After Mitigation
1	Excessive Noise Levels	Potentially Significant	Potentially Significant	Less Than Significant
2	Excessive Groundborne Vibration	Potentially Significant	Potentially Significant	Less Than Significant
3	Permanent Increase in Ambient Noise Levels	Potentially Significant	Potentially Significant	Significant and Unavoidable
4	Temporary Increase in Ambient Noise Levels	Potentially Significant	Less Than Significant	Less Than Significant
5	Excessive Noise Exposure from a Public or Private Airport	Potentially Significant	Potentially Significant	Less Than Significant

2.11.1 Existing Conditions

2.11.1.1 Characteristics of Noise and Vibration

Fundamentals of Noise

Noise is typically defined as unwanted sound. Sound pressure magnitude is measured and quantified using a logarithmic ratio of pressures, the scale of which gives the level of sound in decibels (dB). Sound pressures in the environment have a wide range of values and the sound pressure level was developed as a convenience in describing this range as a logarithm of the sound pressure. To be consistent throughout the world, the sound pressure level is the logarithm of the ratio of the unknown sound pressure to an agreed upon reference quantity of the same kind. To account for the pitch of sounds and the corresponding sensitivity of human hearing to them, the raw sound pressure level is adjusted with an A-weighting scheme based on frequency that is stated in units of decibels (dBA). Typical A-weighted noise levels are listed in Table 2.11-1.

A given level of noise would be more or less tolerable depending on the sound level, duration of exposure, character of the noise sources, time of day during which the noise is experienced, and activity affected by the noise. For example, noise that occurs at night tends to be more disturbing than that which occurs during the day because sleep has the potential to be disturbed. Additionally, rest at night is a critical requirement in the recovery from exposure to

high noise levels during the day. In consideration of these factors, different measures of noise exposure have been developed to quantify the extent of the effects anticipated from these activities. For example, some indices consider the 24-hour noise environment of a location by using a weighted average to estimate its habitability on a long term basis. Other measures consider portions of the day and evaluate the nearby activities affected by it as well as the noise sources. The most commonly used indices for measuring community noise levels are the Equivalent Energy Level (Leq), and the Community Noise Equivalent Level (CNEL).

- **Leq,** the Equivalent Energy Level, is the average acoustical or sound energy content of noise, measured during a prescribed period, such as 1 minute, 15 minutes, 1 hour, or 8 hours. It is the decibel sound level that contains an equal amount of energy as a fluctuating sound level over a given period of time.

- **CNEL,** Community Noise Equivalent Level, is the average equivalent A-weighted sound level over a 24-hour period. This measurement applies weights to noise levels during evening and nighttime hours to compensate for the increased disturbance response of people at those times. CNEL is the equivalent sound level for a 24-hour period with a +5 dBA weighting applied to all sound occurring between 7:00 p.m. and 10:00 p.m. and a +10 dBA weighting applied to all sound occurring between 10:00 p.m. and 7:00 a.m.

The decibel level of a sound decreases (or attenuates) exponentially as the distance from the source of that sound increases. For a single point source such as a piece of mechanical equipment, the sound level normally decreases by about 6 dBA for each doubling of distance from the source. Sound that originates from a linear, or “line” source such as a heavily traveled traffic corridor, attenuates by approximately 3 dBA per doubling of distance, provided that the surrounding site conditions lack ground effects or obstacles that either scatter or reflect noise. Noise from roadways in environments with major ground effects due to vegetation and loose soils would either absorb or scatter the sound yielding attenuation rates as high as 4.5 dBA for each doubling of distance. Other contributing factors that affect sound reception include meteorological conditions and the presence of manmade obstacles such as buildings and sound barriers.

Noise Effects

Noise has a significant effect on the quality of life. An individual’s reaction to a particular noise depends on many factors such as the source of the noise, its loudness relative to the background noise level, and the time of day. The reaction to noise can also be highly subjective; the perceived effect of a particular noise can vary widely among individuals in a community. Because of the nature of the human ear, a sound must be about 10 dBA greater than the reference sound to be judged as twice as loud. In general, a three decibel change in community noise levels is perceivable, while one to two decibel changes generally are not perceived. Although the reaction to noise would vary, it is clear that noise is a significant component of the environment, and excessively noisy conditions can affect an individual’s health and well-being. The effects of noise are often only transitory, but adverse effects can be cumulative with prolonged or repeated exposure. The effects of noise on a community can be organized into six broad categories: sleep disturbance; permanent hearing loss; human performance and behavior; social interaction of communication; extra-auditory health effects; and general annoyance.

Noise Sensitive Land Uses

Noise sensitive land uses include areas where an excessive amount of noise would interfere with normal activities. Primary noise sensitive land uses include residential uses, public and private educational facilities, hospitals, convalescent homes, hotels/motels, daycare facilities, and passive recreational parks. Sleep disturbance is the most critical concern for a noise sensitive land use on a 24-hour basis or longer compared to activities that are occupied only a portion of a day.

Groundborne Vibration

Vibration consists of waves transmitted through solid material (Baranek and Ver 1992). Ground-borne vibration propagates from the source through the ground to adjacent buildings by surface waves. Vibration may be comprised of a single pulse, a series of pulses, or a continuous oscillatory motion. The frequency of a vibrating object describes how rapidly it is oscillating, measured in Hertz (Hz). The normal frequency range of most ground-borne vibration that can be felt generally starts from a low frequency of less than 1 Hz to a high of about 200 Hz.

Vibration energy spreads out as it travels through the ground, causing the vibration amplitude to decrease with distance away from the source. Ambient and source vibration are often expressed in terms of the peak particle velocity (PPV) or root mean square (RMS) velocity in inches per second (in/sec) that correlates best with human perception. The Federal Transit Administration (FTA) estimates that the threshold of perception is approximately 0.0001 in/sec RMS and the level at which continuous vibrations begins to annoy people is approximately 0.001 in/sec RMS (FTA 2006).

Ground-borne vibration can be a concern for nearby neighbors of a transit system route or maintenance facility, causing buildings to shake and rumbling sounds to be heard. In contrast to airborne noise, ground-borne vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of ground-borne vibration are trains, buses on rough roads, and construction activities such as blasting, pile-driving and operating heavy earth-moving equipment.

The rumbling sound caused by the vibration of building structures is referred to as ground-borne noise. The annoyance potential of ground-borne noise is usually characterized with the A-weighted sound level, which is intended to represent the normal frequency response of the human ear. However, there are potential problems when characterizing low-frequency noise using A-weighting, because human hearing causes sounds dominated by low-frequency components to seem louder than broadband sounds that have the same A-weighted level. This is accounted for by setting the limits for groundborne noise lower than would be the case for broadband noise. Other weighting schemes are used in other jurisdictions. For example, a jurisdiction with a higher existing level of vibration would use the alternate C-weighting curve, which is a more accurate representation of human response at very high or very low frequencies than the A-weighting curve (Brüel & Kjær 2000).

Vibration Sensitive Land Uses

Ground-borne vibration can disrupt vibration sensitive land uses by causing movement of buildings, rattling of windows and items inside buildings, rumbling sounds, and even property

damage. Vibration sensitive land uses include buildings where vibration would interfere with operations within the building, such as vibration-sensitive research and manufacturing, hospitals with vibration-sensitive equipment, and university research operations. The degree of sensitivity to vibration depends on the specific equipment that would be affected by the vibration. Electron microscopes and high-resolution lithography equipment function within certain scientific and manufacturing tolerances that can be compromised in high vibration environments. Residential uses are also sensitive to excessive levels of vibration of either a regular or intermittent nature. According to the Transit Noise and Vibration Impact Assessment (FTA 2006), background vibration level in residential areas is typically 0.00003 in/sec RMS, which is lower than 0.0001 in/sec RMS, the threshold of perception for humans. There are several sources of groundborne vibration in the unincorporated County including construction, railroad operations, and extractive mining operations.

2.11.1.2 Ambient Noise Setting

Environmental Setting

The County of San Diego is characterized as a primarily rural environment with low-density development that contributes significantly to the perceived quality of life and the peace and tranquility that exist within the County. However, several higher density communities, including Valle de Oro CPA, Spring Valley CPA, and Sweetwater CPA, also exist, which have a louder ambient noise environment. Major sources of noise include transportation and non-transportation related activities, as discussed below.

Transportation Noise Generators

The most common source of noise in rural and semi-rural environments is transportation-related. Transportation noise generators within the unincorporated County include roadways, airports, and railways. A discussion of each of these noise sources is provided below.

Roadways

Traffic on roadways is the most substantial and common source of noise in San Diego County. Roadways have been and will continue to be the primary mode of transportation for San Diego County residents. According to the San Diego Association of Government's (SANDAG) most recent transportation data on the unincorporated region, 14.5 million vehicle miles are traveled daily on County of San Diego roads (SANDAG 2008b). There are several key factors associated with roadway or traffic noise, including traffic volumes; the speed of the traffic; the type or "mix" of vehicles using a particular roadway; and pavement conditions. The roadway network in the unincorporated County consists of State highways, interstate highways, regional arterials, local public roads, and private roads. Noise would also vary by time of day. Some roadways would be heavily traveled by commuters during the morning and late afternoon peak hours, but relatively vacant during non-peak commuting hours. Highways and arterials generally accommodate high speed, high volume traffic, and are designed to provide for the movement of people and goods between and within communities in the County. The interstate highways in the unincorporated County include I-15, I-5, and I-8. I-15 and I-5 traverse the western portion of the County from north to south, while I-8 crosses the southern portion of the County from west to east. Major State highways include SR-94, SR-78, SR-79, and SR-76. SR-94 is located in the southwestern area of the unincorporated County, while SR-78, SR-79, and SR-76 all serve

the eastern portion of unincorporated County. Examples of major arterials include Jamacha Road in Valle de Oro CPA, Sweetwater Road in Spring Valley CPA, Tecate Road in Mountain Empire Subregion, and South Santa Fe Avenue in North County Metro Subregion.

Local roads serve lower speed, lower volume traffic and provide access to local residential neighborhoods and commercial and industrial areas in each of the communities throughout the unincorporated County. These roads also feed traffic onto the larger highways and arterials. Examples of local roads are Gopher Canyon Road in Bonsall CPA and Olive Hill Road in Fallbrook CPA. Private roads are generally not available to the public and serve a limited number of travelers. Examples include private driveways or maintenance roads.

The number and type of roads varies across the unincorporated County. In the eastern backcountry communities, the roadway network is generally characterized by local roads and State highways that connect widely spaced development. The northwestern and southwestern communities are characterized by a denser roadway network consisting of major arterials and local roads, as well as interstate and State highways, to support the higher density residential, commercial and industrial development in these communities.

Airports

Another transportation-related noise source in the County is aviation operations. Noise generated from aviation operations is concentrated around airport buildings, runways, and along approach and departure routes. Six public airports are located in the unincorporated County: Agua Caliente Airstrip (Desert Subregion), Borrego Valley Airport (Desert Subregion), Fallbrook Community Airpark (Fallbrook CPA), Jacumba Airport (Mountain Empire Subregion), Ocotillo Airstrip (Desert Subregion), and Ramona Airport (Ramona CPA). The County also owns Gillespie Field Airport in the City of El Cajon, which is located in close proximity to Lakeside CPA. Current public airport operations are provided in Table 2.11-2. Additionally, 29 smaller private-use airports are scattered throughout the unincorporated County, including U.S. Forest Service airstrips in the Pendleton/De Luz CPA and Alpine CPA, private or personal use airstrips in Bonsall CPA and Mountain Empire Subregion, Lake Wohlford airstrip in North County Metro Subregion, Pauma Valley Airpark in Pala/Pauma Valley Subregion, a State Parks airstrip in North Mountain Subregion, and Special Use BLM airstrips in the Desert Subregion. The United State Marine Corps operates an airstrip at Marine Corps Base Camp Pendleton in the Pendleton/De Luz CPA.

Railroads

Five railroad providers operate on two railroad corridors within the San Diego region, including: 1) NCTD; 2) MTS; 3) Burlington Northern Santa Fe Railroad (BNSF); 4) Carrizo Gorge Railway (CGR); and 5) San Diego and Imperial Valley Railroad (SD&IV). Although primarily located within the incorporated cities, some rail services extend into unincorporated County areas. The North County Transit District operates the Sprinter, a light rail transit line that extends from Oceanside to Escondido, which serves an area in the North County Metro Subregion. The Amtrak and Coaster passenger lines run along the coast through Marine Corps Base Camp Pendleton. The San Diego & Arizona Eastern Railway's (SD&AE) Desert Line is the primary freight rail line that traverses the unincorporated County. SD&IV operates freight services on this line. It extends through the Mountain Empire Subregion. However, this line is not currently operating and, according to SANDAG, a date for reopening the line has not been established

(SANDAG 2009). The extent of the noise generated from passenger and freight trains depend on many factors, including the frequency of train operations, the number of railway cars, the type of engine, and the number of grade crossings that require warning bells or horns. In addition, train pass-by events would cause adjacent land uses to be affected by groundborne vibration. However, according to SANDAG, the Desert Line portion of the SD&AE railway has been closed since 1983. SANDAG has recommended reopening the line; however, there is currently no proposed date to reopen the line (SANDAG 2008f).

Non-Transportation Noise Generators

Non-transportation related noise generators are commonly called "stationary," "fixed," "area," or "point" sources of noise. Industrial processing, mechanical equipment, pump stations, and heating, ventilating, and air conditioning (HVAC) equipment are examples of fixed location, non-transportation noise sources within the County of San Diego. Some non-transportation sources are not stationary but are typically assessed as point or area sources due to the limited area in which they operate, such as truck deliveries, agricultural field machinery, and mining equipment.

Industrial, Commercial, Extractive, and Agricultural Sources

Noise generated by industrial and commercial operations, maintenance, manufacturing, truck traffic (loading docks), and warehousing noise can affect surrounding noise sensitive land uses. Noise perceived as disruptive by residents in proximity to existing agricultural operations has the potential to result from the operation of agricultural machinery in the evening or early morning hours when many residents desire a quiet environment. In addition, operation of exterior exhaust and cooling system equipment typically used in greenhouse operations can be a source of noise that has the potential to affect surrounding land uses.

Industrial operations are located in Alpine CPA, Fallbrook CPA, Jamul/Dulzura Subregion, Lakeside CPA, Mountain Empire Subregion, North County Metro Subregion, Pala/Pauma Valley Subregion, Pendleton/De Luz CPA, Ramona CPA, San Dieguito CPA, Spring Valley CPA, and Valle de Oro CPA. The major industrial area in the Mountain Empire Subregion, Tecate, is located along the U.S./Mexico international border, in close proximity to Tecate, Mexico, which is also an industrial center. Large areas of commercial land uses are located in the more developed planning areas in the western portion of the unincorporated County, including: Spring Valley CPA, Valle de Oro CPA, Lakeside CPA, Ramona CPA, San Dieguito CPA, and North County Metro Subregion.

Although mineral resources are located throughout the County, mining operations are located primarily in the western half of the unincorporated County because of the availability of transportation facilities to transport these resources. Extractive facilities mine the ground surface or subsurface for removal of sand, gravel, rock, and nonmetallic minerals. As of June 2006, 20 aggregate or construction materials mines were permitted and active within the unincorporated County, including 16 mines in the western portion of the County and four mines in the eastern desert region. The planning areas where extractive uses are located include Lakeside CPA, Mountain Empire Subregion, Desert Subregion, Crest/Dehesa Subregion, Valle de Oro CPA, and North County Metro Subregion. Additionally, 13 mines for the extraction of industrial, chemical mineral materials, metallic, and rare minerals such as gems are currently active in three planning areas of the unincorporated County: Pala/Pauma Valley Subregion, North Mountain Subregion, and Ramona CPA. Mineral resources and extraction sites are discussed in greater detail in Section 2.10, Mineral Resources.

Heavy equipment used in quarry and mining activities and blasting operations have the potential to generate noise levels that expose surrounding land uses to noise levels exceeding noise standards. Additionally, off-site noise has the potential to be generated associated with the transportation of materials to and from the mining facility. Typical noise sources and sound levels for mining operations in the unincorporated County were summarized from technical noise reports previously prepared for several extractive operations throughout the County and are provided in Table 2.11-3. Typical operations at these sites include extraction of sand resources using front end loaders or hydraulic excavators, topsoil blending using similar equipment, and rock extraction using power shovels. Processing of resources includes screening and separating material using motorized power screens or wet-cyclone screening, aggregate washing plants, rock crushing, rock sawing, and rock polishing. Bulldozers and front end loaders are used to load materials onto trucks for stockpiling or delivery. Backfilling of extraction sites also takes place. Groundborne vibrations from blasting, manufacturing and other extractive operations have the potential to also affect vibration sensitive land uses.

Agricultural operations also have the potential to generate noise levels that are incompatible with surrounding land uses. It is estimated that of the County's approximately 2.7 million acres of land, 366,500 acres are in active agricultural use (DPLU 2007b). Major agricultural areas are located in Bonsall CPA, Fallbrook CPA, Jamul/Dulzura Subregion, Lakeside CPA, Mountain Empire Subregion, North County Metro Subregion, North Mountain Subregion, Pala/Pauma Valley Subregion, Pendleton/De Luz CPA, Rainbow CPA, Ramona CPA, and Valley Center CPA. Major crop categories for the County of San Diego include nursery and flower crops, fruit and nut crops, vegetable crops, livestock and poultry, livestock and poultry products, field crops, timber, and apiary products. The noise sources that generate the highest sound levels are chainsaws, crop dusting aircraft, and tractors. The majority of agricultural noise in the unincorporated County comes from horticultural and agricultural processing operations (DPLU 2007d).

Temporary and/or Nuisance Noise

Intermittent or temporary neighborhood noise from amplified music, public address systems, barking dogs, landscape maintenance, stand-by power generators, and construction activities are disturbing to residents but are difficult to attenuate and control. The County's record of noise complaints by community is shown in Table 2.11-4. This table shows that the majority (approximately 74 percent) of noise complaints in the unincorporated County are associated with barking dogs. Roosters and machinery are also common sources of noise complaints, each accounting for approximately seven percent of complaints. The least common source of noise complaints are birds, accounting for approximately two percent of noise complaints. Noise complaints occur more frequently in densely developed areas of the unincorporated County, such as the Spring Valley CPA and Valle de Oro CPA, as well as areas that are heavily agricultural, such as Fallbrook CPA and Valley Center CPA. However, this table only includes complaints that were received by the County's Office of Noise Control. Other noise complaints may have been reported to the San Diego County Sherriff's Department or were not reported.

Community Noise Survey

During February and March 2008, PBS&J conducted noise measurements with the purpose of establishing baseline for transportation and non-transportation noise generators throughout San Diego County. Locations were monitored using a Larson-Davis ANSI Type II integrating sound

level meter to establish existing ambient noise levels. Noise meter locations varied for each measurement according to site accessibility. A total of 44 short-term (15-minute) measurements were conducted to provide a basis for understanding the overall existing noise environment of the County of San Diego. A 15-minute sample is considered a "snapshot" of the baseline noise environment at a given time; however, the sound level would vary depending on time, day or season. Table 2.11-5 summarizes the noise levels measured for the varied land uses within the County. As shown in this table, freeways and highways, major arterials, and railroads were the land use designations where the highest noise levels were measured. Lower short-term noise levels were measured near airports, agricultural areas, and near some noise sensitive land uses.

The results of the community noise survey show that the locations with the highest noise levels (between 70 dBA and 74 dBA Leq) were roadways, (including I-8, boulevards, and a prime arterial), a Sprinter pass-by area in North County Metro Subregion, a shooting range in Valle do Oro CPA, Ramona Landfill, and construction in Spring Valley CPA. The locations with the lowest noise levels (between 43 dBA and 50 dBA) were a resort in Borrego Springs, residential development in San Dieguito CPA and Lakeside CPA, and noise-sensitive biological resources in Lakeside CPA, all of which were subject to limited traffic noise. Other land use designations in this range were a recreational park in Julian CPA, a school in Pala/Pauma Valley Subregion with school bells and children at recess, and agricultural use in Pala/Pauma Valley Subregion utilizing tractors and forklifts. The results of each noise monitoring location, including the land use category, community plan area, major noise source, and Leq associated with each location, are included in Appendix A of the Noise Technical Report (PBS&J 2009), included as Appendix F of this EIR. All noise meter measurements are referenced by a location number and each location number corresponds to data listed in Appendix A of the Noise Technical Report (PBS&J 2009). Noise measurement locations are shown on Figure 2.11-1.

Two 24-hour noise measurements were also conducted as part of the community noise survey. The purpose of a long-term measurement is to sample the fluctuation in noise levels that occur throughout the day; though the sound level would vary depending on the day of the week or season. The locations of the measurement sites were chosen to represent the sound level that noise sensitive land uses have the potential to be exposed to near a freeway (I-15) and near a roadway that provides primary access to a casino. Table 2.11-6 includes the summary of noise level data from the two 24-hour sampling sites including the site location, the community CNEL, and the ranges for the hourly Leq, maximum sound level (Lmax), and minimum sound level (Lmin) for each sample. The first CNEL measurement, located approximately 220 feet from I-15, was 66 dBA and the 24-hour Leq was 62 dBA with no time of day corrections. The second CNEL measurement, located at approximately 60 feet from the centerline of the road leading to the casino, was 73 dBA and the corresponding 24-hour Leq was 67 dBA. The noise level along I-15 was generally constant throughout the day and evening, with a decrease in noise level in the early morning, about midnight to 4:00 a.m., when traffic on I-15 is lighter. The noise level near the casino was generally constant over the 24 hour period, suggesting that traffic to and from the casino is continuous at all hours of the day and night. Additional noise monitoring data for the 24-hour monitoring sites is included in Appendix A of the Noise Technical Report (PBS&J 2009).

Noise Contours

Noise level contours are used as a guide for minimizing the exposure of community residents to noise. Noise contours represent lines of equal noise exposure, just as the lines on a weather

map indicate equal temperature or atmospheric pressure. Contours are used to provide a general visualization of sound levels and should not be considered as absolute lines of demarcation. Noise contours for roadway noise sources in the County were developed for existing conditions (2007) and proposed General Plan Update conditions (2030) and are expressed as CNEL values. The noise model results are included in Appendix B of the Noise Technical Report (PBS&J 2009), provided as Appendix F of this EIR.

Existing noise contours are shown on Figure 2.11-2. Future noise contours for roadways are presented on Figure 2.11-3 for build-out conditions. Figures 2.11-2 and 2.11-3 also display the noise contours for the public airports and railroads in the County.

2.11.2 Regulatory Framework

2.11.2.1 Federal

Federal Aviation Administration (FAA) Standards

Enforced by the FAA, Title 14, Part 150 prescribes the procedures, standards and methodology governing the development, submission, and review of airport noise exposure maps and airport noise compatibility programs, including the process for evaluating and approving or disapproving those programs. Title 14 also identifies those land uses which are normally compatible with various levels of exposure to noise by individuals. It provides technical assistance to airport operators, in conjunction with other local, State, and federal authorities, to prepare and execute appropriate noise compatibility planning and implementation programs. The FAA establishes a CNEL of 65 dBA as the noise standard associated with aircraft noise. This standard is also generally applied to railroad noise [FAR Part 150, Section 150.21].

Federal Highway Administration (FHWA) Standards

Title 23, Part 772 sets procedures for the abatement of highway traffic noise and construction noise. Title 23 is implemented by the Department of Transportation Federal Highway Administration. The purpose of this regulation is to provide procedures for noise studies and noise abatement measures to help protect the public health and welfare, to supply noise abatement criteria, and to establish requirements for information to be given to local officials for use in the planning and design of highways. All highway projects which are developed in conformance with this regulation shall be deemed to be in conformance with the DOT Federal Highway Administration Noise Standards. Title 23 establishes a 67 dBA standard to federal highway projects [23 CFR Chapter 1, Part 772, Section 772.19].

Federal Railroad Administration (FRA) Standards

For high-speed ground transportation (HSGT) projects, responsible agencies require methods provided by the FRA for NEPA evaluation of a project's potential impacts considering the adjacent land uses designations, existing ambient conditions, and future exposure levels. The FRA standards provide methods to assist in the evaluation of high-speed designs in contrast to more standard mass transit developments.

Federal Transit Administration (FTA) Standards

For federally funded mass transit projects, the FTA standards preempt County standards. The County of San Diego currently relies on the vibration standards listed in the FTA Transit Noise and Vibration Impact Assessment Manual (FTA 2006).

U.S. Office of Surface Mining Reclamation and Enforcement

The U.S. Office of Surface Mining Reclamation and Enforcement (OSM) has established guidelines related to blasting for surface mining activities. The OSM guidelines requires the operator to distribute a blasting schedule, post blasting signs, and control access within the blasting area. OSM has established air blast and ground vibration limits at the location of any dwelling, public building, school, church, or community building outside the permit area. The standard PPV damage threshold for residential structures is 2.0 inches per second. This requirement is based on the findings and recommendations of several reports made by the former U.S. Bureau of Mines.

2.11.2.2 State

California Noise Control Act of 1973

Sections 46000 through 46080 of the California Health and Safety Code, known as the California Noise Control Act of 1973, finds that excessive noise is a serious hazard to the public health and welfare and that exposure to certain levels of noise can result in physiological, psychological, and economic damage. It also finds that there is a continuous and increasing bombardment of noise in the urban, suburban, and rural areas. The California Noise Control Act declares that the State of California has a responsibility to protect the health and welfare of its citizens by the control, prevention, and abatement of noise. It is the policy of the State to provide an environment for all Californians free from noise that jeopardizes their health or welfare.

California Noise Insulation Standards (CCR Title 24)

In 1974, the California Commission on Housing and Community Development adopted noise insulation standards for multi-family residential buildings (Title 24, Part 2, California Code of Regulations). Title 24 establishes standards for interior room noise (attributable to outside noise sources). The regulations also specify that acoustical studies must be prepared whenever a residential building or structure is proposed to be located near an existing or adopted freeway route, expressway, parkway, major street, thoroughfare, rail line, rapid transit line, or industrial noise source, and where such noise source or sources create an exterior CNEL (or Ldn) of 60 dBA or greater. Such acoustical analysis must demonstrate that the residence has been designed to limit intruding noise to an interior CNEL (or Ldn) of at least 45 dBA [California's Title 24 Noise Standards, Chap. 2-35].

California Airport Noise Standards (CCR, Title 21, Section 5000 et. Seg.)

The 1990 California Airport Noise Standards are designed to cause the airport proprietor, aircraft operator, local governments, pilots, and the Department of Transportation's Division of Aeronautics to work cooperatively to diminish noise. The regulations accomplish these ends by

controlling and reducing noise in the communities in the vicinity of airports. The level of noise acceptable to a reasonable person residing in the vicinity of an airport is established as a CNEL value of 65 dBA. The limitations on airport noise in residential communities are established to be:

a. The criterion CNEL is 65 dBA for proposed new airports and for active military airports being converted to civilian use.

b. The criterion CNEL for existing civilian airports is 65 dBA.

California Airport Land Use Planning Handbook

The California Airport Land Use Planning Handbook provides guidance for the assessment of noise compatibility of land uses near airports. Guidance is based on existing federal and State regulations and policies. The handbook states that 65 dBA is the basic limit of acceptable noise exposure for residential and other noise sensitive land uses; however, this standard has been set with respect to relatively noisy urban areas and would be too high of a noise level to be appropriate as a standard for land use compatibility planning. The level of noise deemed acceptable in one community is not necessarily the same in another. According to the handbook, noise compatibility standards typically place primary emphasis on residential areas because residential development is one of the most noise sensitive land uses and usually covers the greatest proportion of urban land. Three CNELs are commonly used as the limit for acceptable residential noise exposure: CNEL 65 dBA, 60 dBA, or 55 dBA. The conditions in which each CNEL would be the suggested noise standard are listed in Table 2.11-7. The handbook also includes normalization factors as a method for adjusting aircraft noise levels used for determining and predicting community reactions. These factors are listed in Table 2.11-8. The handbook recommends an annual CNEL standard of 60 dBA to be used for new residential development.

Streets and Highways Code

This regulatory code establishes noise level criteria for traffic and the effect on the interior of neighboring schools, libraries, and multi-purpose rooms produced by the traffic on State freeways. If the noise level generated by freeway traffic exceeds the standard of 50 dBA, the California Department of Public Works Division of Highways is given certain responsibilities for noise abatement in the affected rooms. This code also requires a report on the selection of the location for a State highway in which noise is a required consideration.

California Vehicle Code (Sections 27200-27207)

The California Vehicle Code sets noise emission standards for new vehicles, including autos, trucks, motorcycles and off-road vehicles. This Code requires that the Department of Motor Vehicles not register a dealer's report of sale for a new vehicle which produces a maximum noise exceeding the applicable noise limit at a distance of 50 feet from the centerline of travel under test procedures. This Code does not apply to off-road highway motor vehicle, Noise limits apply to motor vehicles according to weight and date of manufacture. Noise limits range from 88 dBA to 80 dBA.

California Harbors and Navigation Code

Section 654.05 of this code regulates that owners of a motorized recreational vessel shall not operate their vessel in a manner that exceeds the stated noise levels. For recreational vessels manufactured before 1993, the noise level limit is 90 dBA while vessels after 1993 are subject to noise level limits of 88 dBA.

California Streets and Highway Code (Sections 215.5-216-5)

The California Street and Highway Code, Section 215.5, establishes requirements that departments develop and implement a system of priorities for ranking the need for installation of noise attenuation barriers along freeway in the California freeway and expressway system. In establishing a priority system, the department shall give the highest consideration to residential areas which were developed prior to the opening of the freeway. This Code requires the preparing of an annual priority list for noise attenuation barriers, pursuant to criteria listed in this Code. Section 216 of the Streets and Highways Code regulates traffic noise not to exceed 52 dBA Leq inside schools near freeways.

2.11.2.3 Local

Airport Land Use Compatibility Plans (ALUCPs)

ALUCPs are plans that guide property owners and local jurisdictions in determining what types of proposed new land uses are appropriate around airports. They are intended to protect the safety of people, property and aircraft on the ground and in the air in the vicinity of an airport. ALUCPs are based on a defined area around an airport known as the Airport Influence Area (AIA). ALUCPs include policies that address noise compatibility issues associated with airports and their respective AIA. In December 2006, the San Diego County Regional Airport Authority adopted new ALUCPs for six rural airports operated by the County (Agua Caliente, Borrego Valley, Fallbrook, Jacumba, Ocotillo, and Ramona).

Proposed County of San Diego General Plan Update, Noise Element

The proposed General Plan Update Noise Element establishes noise and land use compatibility standards and outlines goals and policies to achieve these standards. The proposed Noise Element characterizes the noise environment in the County of San Diego and provides the context for the County's noise/land use compatibility guidelines and standards. The proposed Noise Element also describes the County's goals for achieving the standards and introduces policies designed to implement the goals.

Under implementation of the proposed General Plan Update, the County would use the Noise Compatibility Guidelines listed in Table 2.11-9 to determine the compatibility of land uses when evaluating proposed development projects. The proposed Noise Compatibility Guidelines indicate ranges of compatibility and are intended to be flexible enough to apply to a range of projects and environments. For example, a commercial project would be evaluated differently than a residential project in a rural area or a mixed-use project in a more densely developed area of the County. If adopted, the Noise Compatibility Guidelines proposed in the County General Plan Update Noise Element would replace the noise policies and standards currently used in the existing County General Plan, which are more general in nature.

A land use located in an area identified as "Acceptable" indicates that standard construction methods would attenuate exterior noise to an acceptable indoor noise level and that people can carry out outdoor activities with minimal noise interference. Land uses that fall into the "conditionally acceptable" noise environment should have an acoustical study that considers the type of noise source, the sensitivity of the noise receptor, and the degree to which the noise source has the potential to interfere with sleep, speech, or other activities characteristic of the land use. For land uses indicated as "conditionally acceptable," structures must be able to attenuate the exterior noise to the indoor noise level as indicated in the Noise Standards listed in Table 2.11-10. For land uses where the exterior noise levels fall within the "unacceptable" range, new construction generally should not be undertaken.

San Diego County Code of Regulatory Ordinances. Title 3. Division 6. Chapter 4, Sections 36.401-36.435, Noise Ordinance

The Noise Ordinance establishes prohibitions for disturbing, excessive, or offensive noise, and provisions such as sound level limits for the purpose of securing and promoting the public health, comfort, safety, peace, and quiet for its citizens. Planned compliance with sound level limits and other specific parts of the ordinance allows presumption that the noise is not disturbing, excessive, or offensive. Limits are specified depending on the zoning placed on a property (e.g., varying densities and intensities of residential, industrial and commercial zones). Where two adjacent properties have different zones, the sound level limit at a location on a boundary between two properties is the arithmetic mean of the respective limits for the two zones, except for extractive industries. The one-hour average sound level limit applicable to extractive industries, including but not limited to borrow pits and mines, shall be 75 decibels at the property line regardless of the zone in which the extractive industry is located. It is unlawful for any person to cause or allow the creation of any noise that exceeds the applicable limits of the Noise Ordinance at any point on or beyond the boundaries of the property on which the sound is produced. Table 2.11-11 shows the allowable noise levels and corresponding times of day for each zoning designation. Furthermore, the Noise Ordinance allows the County to grant variances for specific situations involving temporary on-site noise sources, subject to terms and conditions intended to achieve compliance or at least to reduce potential noise effects from the proposed activities. Section 36.423 of the Noise Ordinance allows the County to grant variances from the noise limitations for temporary on-site noise sources, subject to terms and conditions intended to achieve compliance. Finally, Sections 36.408 through 36.411 of the Noise Ordinance establishes additional noise limitations for operation of construction equipment.

San Diego County Code of Regulatory Ordinances, Title 6, Division 3, Chapter 4, Sections 63.401-63.402 , Agricultural Enterprise and Consumer Information Ordinance

This ordinance is used to define and limit the circumstances under which an agricultural enterprise is considered a nuisance. The ordinance establishes a procedure whereby prospective purchasers of property are notified of the inherent potential conditions associated with agricultural operations found throughout the unincorporated area. These conditions include, but are not limited to, noise, odors, dust, insects, rodents, and chemicals. In 2003, the ordinance was amended to require that all sales of real property within the unincorporated area of the County receive a notice in writing that discloses that: "Occupants of the property to be purchased may be exposed to inconveniences, irritations or discomforts arising from agricultural use, including but not limited to noise, odors, fumes, dust, smoke, insects, rodents, the operation of machinery of any kind (including aircraft) during any 24 hour period, the storage

and disposal of manure, and the application by spraying or other means of agricultural chemicals, such as pesticides and fertilizers."

2.11.3 Analysis of Project Impacts and Determination of Significance

2.11.3.1 Issue 1: Excessive Noise Levels

Guidelines for Determination of Significance

Based on Appendix G of the CEQA Guidelines and County of San Diego Guidelines for Determining Significance, Noise, the proposed County General Plan Update would have a significant impact if it would result in the exposure of any existing or reasonably foreseeable future noise sensitive land uses to exterior or interior noise, including existing and planned Mobility Element roadways, railroads, and all other noise sources (with the exception of airports, which are discussed in Sections 2.11.3.5 and 2.11.3.6), in excess of any of the following:

a. Exterior Locations:
   - Roadways and all other noise sources: 60 or 65 dBA (CNEL) in the Noise Compatibility Guidelines as identified in Table 2.11-9 or an increase of 10 dBA (CNEL) over pre-existing noise in areas where the ambient noise level is 49 dBA (CNEL) or less.
   - Railroads: 60 dBA (CNEL) or an increase of 10 dBA (CNEL) over pre-existing noise in areas where the ambient noise level is 49 dBA (CNEL) or less.

b. Interior Locations
   - 45 dBA (CNEL)

Impact Analysis

As described in Section 2.11.1.1, noise sensitive land uses are uses where an excessive amount of noise would interfere with normal operations or activities and where a high degree of noise control would be necessary. The Noise Compatibility Guidelines in Table 2.11-9 establish the noise levels that are acceptable for the proposed land uses under the General Plan Update, based on the noise sensitivity of the land use. The proposed General Plan Update would result in a significant impact associated with excessive noise levels if development consistent with the General Plan Update would be exposed to noise levels in excess of the Noise Compatibility Guidelines.

Noise contours for major transportation sources in the County of San Diego have been generated for future build out of roadways and development under the General Plan Update. Roadway systems are the most predominant source of noise exposure in the County, followed by airport noise (discussed below in Section 2.11.3.5) and rail operations. Development naturally occurs in proximity to roadways and railroad corridors including the Sprinter line. Additionally, roadways and railroad corridors are constructed in or adjacent to the population centers that it serves. Existing development in the unincorporated County includes areas of noise sensitive land uses adjacent to noise sources such as commercial and residential development along I-15 or the Sprinter Line. However, the proposed General Plan Update

would require future development to be consistent with the proposed Noise Compatibility Guidelines identified in Table 2.11-9.

The noise contours provide an initial estimate of sound levels from identified sources that combine the hourly Leq representing the A-weighted human response with the time of day sensitivity to noise exposure represented by penalties in a 24-hour weighted average (with an exception for aircraft flight operations that use an annual exposure estimate). The use of capacity for the freeway CNEL estimates was a conservative approach equivalent to using the median ADT expected from all freeway segments. Noise contours shown on Figure 2.11-3 present a worst-case scenario of the maximum noise level in which no structures, sound walls, or other barriers intervene between the source and receiver which could attenuate noise; therefore, measured hourly noise levels and the resulting CNEL estimate reflect site-specific conditions and have the potential to be considerably lower than the contours provided in Figure 2.11-3. For example, the community noise survey, described above in Section 2.11.1.2, conducted for the Noise Technical Report, measured a CNEL of 66 dBA at 220 feet from I-15 between Pala Road and Lilac Road, at an elevation approximately 25 feet lower than the freeway elevation (PBS&J 2009). The existing noise contour shown in Figure 2.11-2 for this location is 75 dBA (CNEL), which is higher than the measured noise level due to the elevation difference between the freeway and the receptor. A more exposed site next to a freeway has the potential to be subject to higher noise levels. However, the purpose of the noise contour map is to identify areas where noise has the potential to be a concern. While the actual noise level in certain areas has the potential to be lower than the levels shown on the noise contour map, the noise contours represent a worst-case scenario in order to identify potential noise impacts of the General Plan Update.

Roadway Noise

The proposed General Plan Update roadway network represents anticipated 2030 conditions in the unincorporated County. The map shows several proposed new roadways and roadway extensions that would be constructed in the future to serve the build out of land uses in the County. The timing of proposed new roadways and roadway extensions is unknown at this time and would depend on the need for the roadways to ease traffic congestion as development occurs. Noise contours have been generated from estimated traffic levels on these roadways; however, the contours would only apply if the roadway were constructed.

The contour maps identify 55 dBA (CNEL), 60 dBA (CNEL), 65 dBA (CNEL), 70 dBA (CNEL), and 75 dBA (CNEL) noise contours. Table 2.11-9 identifies the land uses that would be acceptable within each contour. As shown in this table, the 55 dBA (CNEL) noise contour would be acceptable for all proposed land uses. According to the General Plan Update Noise Element, single family residential use, or semi-rural or rural residential development, would not be compatible with noise levels greater that 60 dBA (CNEL); therefore, the 60 dBA (CNEL) noise contour is the appropriate noise contour for the analysis of impacts to proposed single-family residential land uses. Village residential, village core mixed-use, and public semi/public facilities land uses and open space designated for conservation would be compatible with noise levels up to 65 dBA (CNEL) and conditionally acceptable up to 75 dBA. Recreational open space, office professional, commercial, and industrial land uses would be compatible with noise levels up to 70 dBA and conditionally acceptable up to 75 dBA. Only certain industrial land uses would potentially be compatible with noise levels beyond 75 dBA CNEL. For the purposes of this analysis, limited- and medium-impact industrial land uses are considered to be compatible with noise levels up to 70 dBA (CNEL), and heavy-impact industrial land uses would be

compatible with noise levels up to 75 dBA (CNEL). As noted in Table 2.11-9, land uses that are only in use during the day, such as public facilities and offices, would typically use an hourly standard to determine noise compatibility. Therefore, the weighted CNEL contours represent a conservative estimate of impacts to these land uses.

As seen on the contour map in Figure 2.11-3, the areas near freeways and major arterials have the potential to be exposed to excessive noise levels. Table 2.11-12 provides the acreages of land uses by planning area that would be accommodated within each roadway noise level contour that exceeds the noise compatibility guidelines based on the categories listed in Table 2.11-9. Based on this table, in 2030 the General Plan Update would accommodate development of 74,692 acres of land uses that exceed the noise level deemed as "Acceptable" in the noise compatibility guidelines. This total is a conservative estimate because it includes both existing and future development, and it does not take into account any noise attenuation that may have been incorporated into the existing development to reduce exterior noise levels to an acceptable level. The contour with the greatest amount of potential impacts is the 60 dBA (CNEL) contour because this contour encompasses the largest area. The 75 dBA (CNEL) is the contour with the fewest potential impacts because this contour encompasses only land very close to the roadways. Specific land use designations within each CPA are identified in Appendix C of the Noise Technical Report, included as Appendix F.

The planning area with the greatest amount of acreage within the 60 dBA (CNEL) and 65 dBA (CNEL) roadway contours is the Mountain Empire Subregion, which is traversed by I-8. Other planning areas along I-8 that would accommodate land uses that have the potential to be exposed to noise levels exceeding noise compatibility guidelines within the 60 dBA (CNEL) and 65 dBA (CNEL) contours are the Alpine CPA, Central Mountain Subregion, and Lakeside CPA. Several planning areas along I-15 would accommodate a relatively large amount of land uses with the potential to be exposed to noise levels exceeding noise compatibility guidelines within the 60 dBA (CNEL) or 65 dBA (CNEL) contours, including Bonsall CPA, Fallbrook CPA, North County Metro Subregion, and Valley Center CPA. The area with the greatest amount of acreage in the 70 dBA (CNEL) is the Pendleton/De Luz CPA because Marine Corps Base Camp Pendleton is traversed by I-5. However, the General Plan Update does not propose land uses in this area. Lakeside CPA would accommodate the greatest acreage of land uses within both the 70 dBA (CNEL) and 75 dBA (CNEL) contours with the potential to be exposed to noise levels in excess of noise compatibility guidelines.

As noted earlier, the land uses in these contours with the potential to be exposed to noise levels exceeding the noise compatibility guidelines include both existing and potential future development. Many existing developed properties are located within the roadway noise contours and adjacent to freeways (I-8, I-15) and State roads (SR-54, SR-67, SR-76, SR-94) in the unincorporated County. These noise sensitive land uses and other non-sensitive land uses within the roadway noise contours are currently exposed to noise levels exceeding County noise standards (existing ambient noise level). While most of these areas are completely built out with existing development, the opportunity for infill and redevelopment projects would not be precluded. For example, under the General Plan Update, growth would be concentrated in the western portion of the unincorporated County. Many of these communities are served by I-15, including the Bonsall, Fallbrook, and Valley Center CPAs, and have the potential to be exposed to traffic noise from I-15. Additionally, in the eastern regions of the County, future development under the General Plan Update would generally be accommodated along the I-8 corridor. Though development in this corridor is proposed at a low level of intensity, especially east of the Alpine CPA, it also presents the greatest potential for incompatibility due its rural character and

the limited uses allowed in the semi-rural and rural lands designations, which are predominantly noise sensitive land uses. Therefore, new noise sensitive land uses throughout the unincorporated County have the potential to be exposed to excessive noise from roadways.

To verify the noise levels estimated by the roadway contours, two 24-hour noise measurements were taken along major roadways as part of the community noise survey. One was taken along I-15, a major freeway in the unincorporated County, and the second was taken along Wildcat Canyon Road, an access road for a casino. As shown in Table 2.11-6, the noise measurement resulted in a CNEL along the I-15 freeway of 66 dBA and a CNEL near the casino of 73 dBA. Both roadways exceed the 60 dBA (CNEL) exterior noise standard. Additionally, these noise levels were generally constant over the 24-hour period. Noise sensitive land uses in close proximity to I-15 and the casino access road have the potential to be exposed to noise levels that exceed 60 dBA during both day and nighttime hours. Noise sensitive land uses have the potential to be more sensitive to noise during nighttime hours and, while the noise level is generally constant, have the potential to seem louder to noise sensitive land uses at night when the ambient noise level is lower. These measurements are representative of heavily traveled roadways in the unincorporated County. Therefore, noise sensitive land uses in the County have the potential to be exposed to excessive levels from major roadways such as freeways, highways, and arterials, or roadways that provide access to land uses that generate a constant flow of traffic, such as casinos. However, all roadways have the potential to exceed noise standards, depending on traffic conditions and the proximity of the roadway to noise sensitive land uses.

Railroad Noise

Two railroads are located within the unincorporated San Diego County, the Sprinter Commuter Rail Line located near the North County Metro Subregion, and the SD&AE's Desert Line which is located in the southeastern portion of the County. Table 2.11-13 provides the acreages of potential noise sensitive land uses that would occur within the 60 dBA (CNEL) contour of railroads. This includes both the Sprinter light rail line and the SD&AE's Desert Line, a freight line. As mentioned previously, Ldn and CNEL are essentially equivalent noise metrics; there is generally less than a two decibel difference between the two levels. As described above, some land uses typically considered noise sensitive land uses have the potential to be compatible with noise levels greater than 60 dBA under the Noise Compatibility Guidelines in Table 2.11-9. However, only the 60 dBA noise contours have been established for the railroads in the unincorporated County. Therefore, this analysis is a conservative estimate of potential noise sensitive land uses that would be exposed to excessive noise from railroads.

As shown in Table 2.11-13, in 2030 the General Plan Update designates approximately 1,614 acres of noise sensitive land uses in areas exceeding the 60 Ldn railroad noise contour. Specific land use designations within each CPA are included in Appendix C of the Noise Technical Report, included as Appendix F to this EIR. Noise sensitive land uses within the 60 Ldn railroad contour are only located in the Mountain Empire and the North County Metro Subregions. A large segment of the SD&AE's Desert Line traverses the Mountain Empire Subregion, while the Sprinter line serves only a small portion of North County Metro Subregion. As a result, 97 percent of the acreage of noise sensitive land uses located within the 60 Ldn contour are located in the Mountain Empire Subregion (1,561 acres), compared to 53 acres in the North County Metro Subregion. The Mountain Empire Subregion is relatively undeveloped along the SD&AE Desert Line. This area has the potential for new development under the General Plan Update that would result in the exposure of noise sensitive land uses to excessive

noise levels from the SD&AE Desert Line. The Desert Line is currently not in use and no date for reopening the line has been established. Potentially significant impacts associated with the Desert Line would only occur if this line resumes operation. The General Plan Update would accommodate new development in the proximity of the Buena Creek Sprinter Station in the North County Metro Subregion. This area is currently developed with single family residences and low intensity commercial uses; however, the General Plan Update designates this area for higher intensity commercial and residential uses. Redevelopment or infill development consistent with the General Plan Update would result in new noise sensitive land uses exposed to noise from operation of the Sprinter.

Federal, State, and Local Regulations and Existing Regulatory Processes

Future development under the General Plan Update would be required to comply with CCR Title 24, which establishes standards for interior room noise. The regulations require an acoustical study to be prepared whenever a residential building or structure is proposed to be located near an existing or adopted freeway route, expressway, parkway, major street, thoroughfare, rail line, rapid transit line, or industrial noise source, and where such noise source or sources create an exterior CNEL (or Ldn) of 60 dBA or greater. Additionally, future development would be required to comply with the Noise Compatibility Guidelines and General Plan Update Noise Element Noise Standards listed in Tables 2.11-9 and 2.11-10, and the County of San Diego Noise Ordinance. These regulations establish sound level limits for the purpose of securing and promoting the public health, comfort, safety, peace, and quiet. Additionally, future discretionary projects proposed under the General Plan Update would be required to comply with CEQA, which requires that projects identify any potential noise impacts. Mitigation measures such as double-paned windows would be required for any significant impacts.

Proposed General Plan Update Goals and Policies

The Noise Element contains several goals and policies that would reduce potential noise impacts to noise sensitive land uses. Goal N-2 is to achieve a noise environment that minimizes exposure of noise sensitive land uses to excessive noise levels. This goal is supported by Policy N-2.1, which requires preparation of an acoustical study where development has the potential to directly result in any existing or future noise sensitive land uses being subject to noise levels equal to or greater than 60 dBA (CNEL), and Policy N-2.2, which requires a solid noise barrier be incorporated into development design when the exterior noise level on patios or balconies for multi-family residences or mixed-use developments exceeds a CNEL of 65 dBA. Goal N-4 is to achieve a noise environment that reduces noise generated from traffic, railroads, and airports to the extent feasible. This goal is supported by Policies N-4.1, N-4.2, N-4.5, N-4.7, and N-4.8. These policies do the following: ensure that increases in average daily traffic do not substantially increase cumulative traffic noise to noise sensitive land uses; include traffic calming design, traffic control measures, and low-noise pavement surfaces that minimize motor vehicle traffic noise; promote the location of new or expanded roads where the impact to noise sensitive land uses would be minimized; require coordination with other agencies to minimize impacts to noise sensitive land uses from railroad operations; and promote establishment of train horn “quiet zones” and promote community programs for existing crossings by working with rail operators. Additionally, the Land Use Element includes Policy LU-2.7 that requires measures that minimize significant impacts to surrounding areas from uses or operations that cause excessive noise. The Mobility Element includes Policies M-1.3 and M-2.4 that would avoid bisecting communities or town centers, consider lower design speeds in areas planned for substantial development to reduce noise

impacts, and incorporate buffers or other noise reduction measures into the siting and design of roads located next to sensitive noise receptors.

Summary

Future development under the General Plan Update near roadways or railroads would have the potential to expose noise sensitive land uses to excessive noise levels. While existing County policies and regulations and proposed General Plan Update goals and policies are intended to minimize excessive noise, specific measures that implement these policies and regulations are proposed to ensure that the intended protections are achieved. Therefore, the proposed project is concluded to result in a potentially significant impact associated with minimize excessive noise and specific implementation programs are identified as mitigation.

2.11.3.2 Issue 2: Excessive Groundborne Vibration

Guidelines for Determination of Significance

Based on Appendix G of the CEQA Guidelines and County of San Diego Guidelines for Determining Significance, Noise, the proposed County General Plan Update would have a significant impact if it would result in the exposure of vibration sensitive uses to ground-borne vibration and noise equal to or in excess of the levels shown in Table 2.11-14, Groundborne Vibration and Noise Standards, or if new sensitive land uses would be located in the vicinity of ground-borne vibration inducing land uses such as railroads or mining operations. The groundborne vibration and noise standards identify the following three land use categories with increasing sensitivity to groundborne vibration and noise impacts:

a. Category 1: Buildings where low ambient vibration is essential for interior operations (research & manufacturing facilities with special vibration constraints)
b. Category 2: Residences and buildings where people normally sleep (hotels, hospitals, residences, & other sleeping facilities)
c. Category 3: Institutional land uses with primarily daytime use (schools, churches, libraries, other institutions, & quiet offices)

The proposed project would result in a significant impact if frequent events would exceed 0.0018 in/sec RMS for Category 1 land uses, 0.004 in/sec RMS for Category 2, and 0.0056 in/sec RMS for Category 3. Occasional or infrequent events (fewer than 70 vibration events per day) would be considered a significant impact if they would exceed 0.0018 in/sec RMS for Category 1 land uses, 0.010 in/sec RMS for Category 2, and 0.014 in/sec RMS for Category 3.

Impact Analysis

Sources of groundborne vibration exist in the County that cause groundborne vibration. Additionally, groundborne vibration has the potential to occur as a result of new land use development accommodated by the General Plan Update. Potential sources of groundborne vibration include construction, railroads, and extractive mining operations. These sources are discussed further below.

Construction

As shown in Table 2.11-15, construction typically results in ground-borne vibration in that ranges from 0.003 to 0.01 in/sec RMS at a distance of 50 feet from the source. These vibration levels would exceed the significance threshold for infrequent events for Category 1 land uses, but would not exceed the threshold level for the land uses within Categories 2 and 3, as defined in Table 2.11-14. For isolated and infrequent events such as blasting, impacts have the potential to result in a PPV that exceeds 1.0 in/sec RMS, which would exceed groundborne vibration standards for all three land use categories. Other vibration sources from construction such as pile drivers or hydraulic breakers have the potential to exceed 0.1 in/sec RMS. These sources would also have the potential to exceed vibration standards for all three land use categories. Therefore, typical construction activities have the potential to exceed vibration standards and expose vibration sensitive land uses to excessive groundborne vibration.

The General Plan Update does not propose specific development projects; therefore, it is not possible to determine exact vibration levels associated with construction of future development under the General Plan Update. However, the majority of new development planned within the General Plan Update, approximately 80 percent, is located within the SDCWA boundary in the western region of the unincorporated County. Therefore, this area is more likely to be affected by ground-borne vibration and noise from construction as a result of development consistent with the General Plan Update. Specifically, the Bonsall CPA would accommodate the development of 2,080 new housing units under the General Plan Update, particularly in the northern part of the CPA, which is a 54.2 percent increase in residential units compared to 2008 conditions. Commercial and residential growth is also anticipated in Fallbrook CPA along the I-15 corridor and within the town center. Intensification of residential and commercial uses is designated within the Lakeside CPA town center and along major thoroughfares. In the North County Metro Subregion, land use designations would have the potential to result in new commercial and residential development in the proximity of the Buena Creek Sprinter Station. Intensified development in the town centers of Rainbow CPA, Ramona CPA, San Dieguito CPA, and Valley Center CPA would also be anticipated. In the Sweetwater CPA, new residential development would be accommodated along the southeastern boundary of the CPA.

New growth could also be accommodated in areas of the eastern portion of the unincorporated County. The General Plan Update would accommodate intensified development within the town centers of the Alpine CPA, Central Mountain Subregion, Crest/Dehesa Subregion, Julian CPA, and Mountain Empire Subregion. New semi-rural residential and village residential growth would be accommodated in the Borrego Springs area of the Desert Subregion, resulting in an approximately 90 percent increase in housing units in this subregion. Growth of commercial and industrial uses in the Tecate planning area of the Mountain Empire Subregion would likely occur due to its proximity to Tecate, Mexico. Therefore, in all areas of the unincorporated County, new development could require infrastructure that would also have the potential to result in substantial construction groundborne vibration and noise.

Railroads

As discussed above, two railroads are located within the unincorporated San Diego County, the Sprinter Commuter Rail Line and the SD&AE's Desert Line. As shown in Table 2.11-15, typical vibration levels for commuter rail operations can range from 0.0003 to 0.003 in/sec VMS at a distance of 50 feet from the source. At this distance, vibration levels would not exceed the significance threshold for Category 2 and 3 land uses, but have the potential to exceed the

significance threshold for Category 1 land uses such as industrial manufacturing facilities, which are the most vibration-sensitive. However, as described above in Section 2.11.1.2, the Desert Line is currently not in use and no date for reopening has been established. Additionally, should the line resume operations, vibration impacts would be less than significant due to the infrequency of operations that would occur on the freight rail line.

Under the General Plan Update, new commercial and residential development would be accommodated within the North County Metro Subregion near the Buena Creek Sprinter Station and along the Sprinter corridor. This development would have the potential to be exposed to vibration impacts from operation of the Sprinter trains. The FTA provides screening distances for land use designations to screen projects that have the potential to be subject to vibration impacts from a commuter railroad. For Category 1 land uses (vibration-sensitive equipment), the screening distance from the railroad right-of-way to the property line is 600 feet. For Category 2 land uses, the screening distance is 200 feet. The screening distance for Category 3 land uses is 120 feet. New development that is proposed within the screening distance of the Sprinter Rail corridor would require further project-specific analysis to determine potential vibration-related impacts.

Extraction (Mining) Operations

Mining and extraction operations often include blasting or other activities that result in ground-borne vibration or noise impacts. The majority of extractive sites, as well the areas where mineral resources are most likely present, are concentrated in the western portion of the unincorporated County, where development would be concentrated under the General Plan Update. Equipment used for extraction operations would have similar vibration levels associated with blasting and use heavy equipment as those used for construction projects, identified in Table 2.11-15. Therefore, vibration levels from mining equipment could potentially range between 0.003 – 0.01 in/sec RMS at a distance of 50 feet from the source. Therefore, frequent vibration occurrences would have the potential to exceed the threshold for Category 1 land uses (0.0018 in/sec RMS), but have the potential to not exceed the significance threshold for Categories 2 and 3 (0.004 in/sec RMS and 0.0056 in/sec RMS, respectively). Additionally, infrequent events such as blasting have the potential to exceed 1.0 in/sec RMS, and the use of impact pile drivers or hydraulic breakers has the potential to exceed 0.1 in/sec. Therefore, infrequent events have the potential to exceed the thresholds for all three vibration sensitive land use categories.

The OSM has established guidelines related to blasting for surface mining activities, which have the potential to reduce groundborne vibration impacts. The OSM guidelines requires the operator to distribute a blasting schedule, post blasting signs, and control access within the blasting area. OSM has established air blast and ground vibration limits at the location of any dwelling, public building, school, church, or community building outside the permit area. The standard PPV damage threshold for residential structures is 2.0 in/sec. As described above, blasting events have the greatest potential to result in vibration impacts. Blasting has the potential to exceed 1.0 in/sec RMS, but would not typically result in vibration of 2.0 in/sec to off-site land uses. Extraction operations would be required to comply with OSM guidelines. Therefore, damage to residential structures from groundborne vibration would not occur under the General Plan Update.

Federal, State, and Local Regulations and Existing Regulatory Processes

Future development under the proposed project would be required to comply with FTA and Federal Railroad Administration guidelines, which establish vibration standards for the construction of new vibration sensitive land uses and the placement of new vibration sources such as railroads. The FTA guidelines also identify standards for construction vibrations and establish mitigation for construction vibration impacts. Additionally, future projects under the General Plan Update that have the potential for incurring ground-borne vibration and noise impacts would be required to comply with CEQA, which requires proposed projects to identify any potential impacts associated with groundborne vibration and noise. As part the of CEQA process, the County would require projects with the potential to result in vibration impacts to conduct a Noise Impact Analysis report consistent with the County of San Diego Report Format and Content Requirements to determine if impacts would be significant. Mitigation measures would be required for any significant impacts.

Proposed General Plan Update Goals and Policies

The General Plan Update Noise Element includes goals and policies that would reduce impacts ground-borne vibration and noise. Goal N-3 is to achieve an environment that minimizes exposure of sensitive land uses to harmful effects of excessive groundborne vibration. This goal is supported by Policy N-3.1, which would require the use of FTA and Federal Railroad Administration guidelines, where appropriate, to limit the extent of exposure that sensitive uses have the potential to have to groundborne vibration from trains, construction equipment, and other sources. In addition, Policy N-4.7 would require the County to work with SANDAG, Metropolitan Transit Services (MTS), and passenger and freight rail operators, as appropriate, to minimize impacts to residential and other sensitive land uses. Policy N-5.2 would locate industrial facilities in areas that would minimize impacts to sensitive land uses. Additionally, Goal N-6 is to minimize effects of intermittent, short-term, or other nuisance noise sources to noise sensitive land uses. This goal is supported by Policies N-6.3 and N-6.4. These policies require development to limit the frequency of use of high-noise equipment if their activity will result in noise that affects residential zones and also require development to limit the hours of operation as appropriate for non-emergency construction and maintenance, trash collection, and parking lot sweeper activity near noise sensitive land uses.

Summary

Construction of new land uses under the General Plan Update and placement of new development in close proximity to existing railroads or extraction operations would have the potential to result in impacts associated with excessive groundborne vibration. While existing County policies and regulations and proposed General Plan Update goals and policies are intended to minimize excessive groundborne vibration, specific measures that implement these policies and regulations are proposed to ensure that the intended protections are achieved. Therefore, the proposed project is concluded to result in a potentially significant impact associated with excessive groundborne vibration and specific implementation programs are identified as mitigation.

2.11.3.3 Issue 3: Permanent Increase in Ambient Noise Levels

Guidelines for Determination of Significance

Based on Appendix G of the CEQA Guidelines and the County of San Diego Guidelines for Determining Significance, Noise, the proposed County General Plan Update would have a significant impact if it would result in a substantial permanent increase in ambient noise which would exceed the sound level limits specified in San Diego County Code Section 36.404, Sound Level Limits, at the property line of the property on which the noise is produced or at any location on a property that is receiving the noise. The sound level standards in Section 36.404 are provided in Table 2.11-11.

If the measured ambient level exceeds the applicable limit noted in Table 2.11-11 due to a specific noise violation source, the allowable one hour average sound level would be the one-hour average ambient sound level, plus three decibels. The ambient noise level shall be measured when the alleged noise violation source is not operating. The sound level limit at a location on a boundary between two zoning districts is the arithmetic mean of the respective limits for the two districts. The one-hour average sound level limit applicable to extractive industries, including borrow pits and mines, shall be 75 decibels at the property line regardless of the zone where the extractive industry is located. Proposed extractive facilities would be subject to the noise standards within the Noise Element at the proposed site and adjacent uses. Fixed-location public utility distribution or transmission facilities located on or adjacent to a property line shall be subject to the sound level limits identified in this section, measured at or beyond six feet from the boundary of the easement upon which the equipment is located. However, some uses are exempt from the Noise Ordinance. Exemptions are listed in Section 36.417 and apply to certain instances of emergency work, school activities, public events, emergency generators, agricultural operations, and property maintenance. Additionally, existing extractive operations are not restricted by the zonal standards in Section 36.404 because of Section 36.404(e). Section 36.404 (e) of the Noise Ordinance defines the sound limit level at a location on a boundary between two zones as the arithmetic mean of the respective limits for the two zones. The one-hour average sound level limit applicable to extractive industries, including but not limited to borrow pits and mines, is defined as 75 decibels at the property line regardless of the zone in which the extractive industry is located.

Permanent traffic noise impacts would be significant if the General Plan Update would raise the noise levels above the County of San Diego Guidelines for Determining Significance of 60 dBA (CNEL). In areas where the existing noise level without the project is above 60 dBA but below 65 dBA, the proposed project would result in a significant impact if it would result in an increase of more than three decibels, in accordance with the Federal Transit Administration noise impact criteria. Where the existing noise exposure is between 65 dBA and 70 dBA, a significant impact would occur if the proposed project would exceed the existing noise level by more than one decibel. Where the existing noise exposure exceeds 70 dBA, any increase in the noise level would be considered significant.

Impact Analysis

Future development and expansion of infrastructure in the unincorporated County consistent with the General Plan Update would have the potential to substantially increase ambient noise levels above existing conditions. Provision of new infrastructure to accommodate planned

growth, especially the new roads and road improvements in the Mobility Element, would have the potential to increase traffic noise above existing conditions. Operation noise from industrial, agricultural or other noise-generating uses would have the potential to result in permanent increases in the ambient noise environment that would have the potential to affect surrounding land uses.

Roadways

As part of the proposed General Plan Update, the Mobility Element would include changes to the classifications of roadways within the unincorporated County. In most instances, the classification changes for roadways would allow for increased roadway capacity which would result in increased noise levels from the additional vehicles on the roadways. Table 2.11-16 compares roadway classifications for existing conditions and build out of the proposed general plan (2030 conditions) and identifies the roadway segments that would result in an increase in traffic noise levels. The list in Table 2.11-16 does not include every roadway segment that would have the potential to result in an increase in noise levels; however, it identifies general areas that would experience an increase in noise level of 3 dBA or greater as compared to existing conditions.

The majority of roadway segments that would experience an increase in noise levels would be upgraded from a Collector classification to a Major Arterial. Collector roadways are two-lane roads that serve low volumes of traffic within communities. Major arterials are four-lane roads that serve medium to high volumes of traffic traveling within and between communities. This type of upgrade would result in an increase in the noise level from a CNEL of 64 dBA under the Collector classification to a CNEL of 71 dBA under the Major Arterial classification at 100 feet from the roadway centerline. Examples of this increase in noise level would occur on Mission Road from Green Canyon Road to Triple Crown, Mountain Meadow Road from I-15 to North Broadway, and Dehesa Road from Granite Hills Road to Sycuan Casino, as listed in Table 2.11-16. The increases in roadway noise would generally occur west of the SDCWA boundary in the areas where the General Plan Update proposes the intensification of land uses, and therefore would require an increase in roadway capacity. In some cases, roadway classifications are upgraded from a Collector to a Prime Arterial, resulting in an increase of approximately 13 dBA (CNEL). Prime arterials are six-lane roads that accommodate high speed, high volume traffic. Examples of this upgrade include Deer Springs Road (from Marilyn Road to I-15) and SR-67 (from Sycamore Road to Willow Road). The CPAs that would be most affected by roadway noise increases are the southwestern portion of Fallbrook CPA (near Mission Road), the central area of Bonsall CPA (near Gopher Canyon Road), the central area of Valley Center CPA, the Twin Oaks Valley area in the North County Metro Subregion, San Dieguito CPA, and the western area of the Ramona CPA. The western Lakeside CPA would be affected by the increase in capacity of SR-67 from Sycamore Road to Willow Street. Increases in noise levels along Dehesa Road, Campo Road, and Jamacha Road would affect the Crest/Dehesa Subregion, Valle de Oro CPA, and Spring Valley CPA. The increase in capacity of Otay Lakes Road would affect the Otay and Jamul/Dulzura Subregion.

Additionally, development of proposed new roadways or roadway extensions would result in increases in noise levels above existing conditions. An example of these roadways, as shown in Table 2.11-17, is the proposed Foothill Tollway in the northern area of the Pendleton/De Luz CPA. This roadway would result in a permanent increase in traffic noise level over existing conditions.

Industrial, Agricultural, or other Noise-Generating Uses

Industrial, agricultural, and other land uses often involve the use of machinery and other equipment that would have the potential to generate noise that exceeds noise standards. A potential noise impact would occur from the development of industrial land uses in areas that are relatively quiet or contain, or are designated for, noise sensitive land uses. Operation of an industrial facility can cause the exposure of on-site or off-site areas to increased noise associated with mechanical equipment (pumps, rooftop equipment, condenser units, air conditioning units, pneumatic equipment), operation-related traffic (vehicle movement, engine noise), speakers, bells, chimes, and outdoor human activity in defined limited areas.

Under the General Plan Update, industrial land uses would be accommodated in the Alpine CPA, Desert Subregion, Fallbrook CPA, Julian CPA, Lakeside CPA, Mountain Empire Subregion, North County Metro Subregion, Ramona CPA, Spring Valley CPA, and Valley Center CPA. The most intensive industrial use designation, high impact industrial, is proposed under the General Plan Update in the Alpine CPA, Desert Subregion, Lakeside CPA, North County Metro Subregion, and Ramona CPA. Medium and low impact industrial land uses would be accommodated in all of the communities identified for high impact industrial, with the exception of the North County Metro Subregion. In the Alpine CPA, Fallbrook CPA, Julian CPA, and North County Metro Subregion, new industrial facilities would have the potential to result in a significant increase in ambient noise because the surrounding area is relatively undeveloped with semi-rural land uses. Additionally, land uses surrounding the areas designated for industrial land uses in these communities include residential land uses. If residential land uses are constructed prior to industrial facilities, new industrial facilities would have the potential to result in a significant impact to the residential uses.

In the Desert Subregion, industrial land uses would be allowed in the Borrego Springs planning area under the General Plan Update. These land use designations reflect both existing industrial development and proposed new industrial facilities; therefore, the new facilities would likely be compatible with the existing noise environment of the industrial area. The same situation would occur in the Lakeside CPA, Mountain Empire Subregion, Ramona CPA, Spring Valley CPA, and Valley Center CPA.

Agricultural operations are another source of non-transportation noise in the unincorporated County. Major agricultural uses are currently located in the Bonsall CPA, Fallbrook CPA, Jamul/Dulzura Subregion, Lakeside CPA, Mountain Empire Subregion, North County Metro Subregion, North Mountain Subregion, Pala/Pauma Valley Subregion, Pendleton/De Luz CPA, Rainbow CPA, Ramona CPA, and Valley Center CPA. However, under implementation of the proposed General Plan Update, agricultural operations would be allowable within any land use designation. Therefore, new agricultural operations would have the potential to be located near residences or other noise sensitive land uses. Truck deliveries and operation of farming equipment such as tractors are the primary agricultural noise sources. As shown in Table 2.11-5, the community noise survey identified agricultural operations as having a noise level range of 44.4 through 68.3 dBA, which would have the potential to exceed the noise limit identified in Table 2.11-11 for residential or commercial land uses, but would not exceed the noise limit for industrial zones. However, under Section 36.417 of the Noise Ordinance, agricultural operations are generally exempt from the noise standards, provided that each piece of equipment and machinery powered by an internal-combustion engine is equipped with an appropriate muffler and air intake silencer in good working order and one of the following applies: operations do not take place between 7:00 p.m. and 7:00 a.m.; the operations and

equipment are utilized for the preparation, planting, harvesting, protection or salvage of agricultural crops during adverse weather conditions; or the operations and equipment are used for agricultural pest control in accordance with regulations and procedures administered by the County Department of Agriculture. Therefore, agricultural operations would not result in a potentially significant impact to noise sensitive land uses, specifically residential and commercial land uses.

Extractive operations would also have the potential to exceed the noise limits established in the Noise Ordinance. The one-hour average sound level limit applicable for extractive industries is 75 decibels, regardless of the zone in which the extractive industry is located, as stated in Section 36.404(e) of the Noise Ordinance. Heavy equipment used in quarry and mining activities and blasting operations would have the potential to generate noise levels that would expose surrounding land uses to noise levels exceeding County noise standards. As shown in Table 2.11-3, equivalent sound levels (Leq) from certain types of extraction equipment can exceed 75 dBA at 50 feet from equipment. No new mining operations are specifically proposed as part of the General Plan Update. Any future extractive facilities would be subject to the noise standards within the Noise Element and Noise Ordinance at the proposed site and adjacent uses, which would reduce any potential noise impacts to noise sensitive land uses to a less an significant level.

Casinos have the potential to generate noise in the unincorporated County primarily due to increased traffic (vehicles and passenger buses) traveling along roadways to and from the gaming facilities. Casinos are currently located on the Viejas Reservation in the Alpine CPA; Sycuan Reservation in the Crest/Dehesa Subregion; Pala, La Jolla, and Rincon Reservations in the Pala/Pauma Valley Subregion; San Pasqual Reservation in the Valley Center CPA; Campo and La Posta Reservations in the Mountain Empire Subregion; and Pauma-Yuima and Santa Ysabel Reservations in North Mountain Subregion. As shown in Table 2.11-5, the short-term community noise survey measured a noise level of 66 dBA Leq at approximately 60 feet from the centerline of an access road to Sycuan Casino (Dehesa Road). A 24-hour noise measurement taken on an access road to Barona Casino measured a CNEL of 72.7 dBA along Wildcat Canyon Road (approximately 60 feet from the centerline of the road). Hourly Leq measurements were generally constant throughout the 24-hour period, though the noise level was lower in the early morning compared to rest of the period. The unweighted 24-hour Leq for the Barona Casino location was 67 dBA, which shows that the noise levels at both casinos were comparable. Access roads to casinos would have the potential to be adjacent to residences or other noise sensitive land uses, especially in planning areas that are currently densely developed or that would accommodate higher density development under the General Plan Update, such as the Alpine CPA and Valley Center CPA. Therefore, casino operations in the County would have the potential to exceed the exterior noise standards in Table 2.11-11 and result in a potentially significant impact.

Other noise-generating uses in the County include shooting ranges, landfills, and mixed use areas. The community noise survey measured an Leq of 74 dBA approximately 20 feet from a shooting range in Valle de Oro CPA, primarily from firearm noise, and an Leq of 73 dBA on the Ramona Landfill property in Ramona CPA, primarily due to bulldozers used for the operation of the landfill. Based on the measured noise levels, both shooting range and landfill land uses have the potential to exceed noise limits identified in Table 2.11-11 for residential (50 dBA), commercial (60 dBA), and industrial land uses (70 dBA).

Additionally, mixed-use development would be accommodated within several planning areas under the General Plan Update: Fallbrook CPA, San Dieguito CPA, and Valley Center CPA. The mixed-use land use designation would allow commercial, civic, and residential uses to be developed in close proximity to one another. While this land use designation is intended to create pedestrian-oriented areas that would reduce vehicular traffic and associated traffic noise, commercial land uses would have the potential to generate noise that exceeds noise limits for residences. The community noise survey identified a range in noise levels of 65 - 69 dBA for commercial uses, based on short-term 15-minute samples. Therefore, new commercial development in close proximity to residential uses would have the potential to exceed the exterior noise standard of 65 dBA identified in Table 2.11-11 for mixed-use land uses.

Federal, State, and Local Regulations and Existing Regulatory Processes

Future development under the General Plan Update would be required to comply with the Noise Compatibility Guidelines and Noise Standards listed in Tables 2.11-7 and 2.11-8, from the proposed General Plan Update Noise Element, and the County of San Diego Noise Ordinance. The regulations establish sound level limits for the purpose of securing and promoting the public health, comfort, safety, peace, and quiet. In addition, future projects under the General Plan Update would be required to comply with CEQA, which requires project to identify any potential impacts associated with a permanent increase in ambient noise. Mitigation measures would be required for any significant impacts.

Proposed General Plan Update Goals and Policies

The proposed General Plan Update Noise Element contains several policies that would reduce noise impacts from both roadways and non-transportation noise sources. Policies N-4.1, N-4.2, and N-4.6 support Goal N-4, which is to achieve a noise environment that reduces noise generated from traffic, railroads, and airports to the extent feasible. These policies are intended to reduce the potential for increases in average daily traffic to increase cumulative traffic noise to noise sensitive land uses; include traffic calming design, traffic control measures, and low-noise pavement surfaces that minimize motor vehicle traffic noise; and require proposed projects to be evaluated against ambient noise levels to determine whether the project would increase ambient noise levels by more than three decibels. Additionally, Goal N-5 is to achieve a noise environment that provides minimal noise spillovers from industrial, commercial, agricultural, extractive, and similar facilities to adjacent neighborhoods. This goal is supported by Policies N-5.1 and N-5.2, which require development to be designed so that automobile and truck access to industrial and commercial properties abutting residential properties is located at the maximum practical distance from residential zones, and encourage noise-generating industrial facilities to be located at the maximum practical distance from residential zones. Additionally, the Land Use Element includes Policy LU-2.7 that requires measures that minimize significant impacts to surrounding areas from uses or operations that cause excessive noise. The Mobility Element includes Policies M-1.3 and M-2.4 that would design new high-volume roadways to avoid bisecting communities or town centers, consider narrower rights-of-way, promote flexibility in design standards, lower design speeds in areas planned for substantial development to reduce noise impacts, and incorporate buffers or other noise reduction measures into the siting and design of roads located next to sensitive noise receptors.

Summary

Traffic on new roadways or roadway improvements, as well as operation of new industrial facilities and other noise-generating uses under the General Plan Update would result in potentially significant permanent increases in ambient noise level. While existing County policies and regulations and proposed General Plan Update goals and policies are intended to minimize permanent increases to ambient noise, specific measures that implement these policies and regulations are proposed to ensure that the intended protections are achieved. Therefore, the proposed project is concluded to result in a potentially significant impact associated with permanent increases to ambient noise and specific implementation programs are identified as mitigation.

2.11.3.4 Issue 4: Temporary Increase in Ambient Noise Levels

Guidelines for Determination of Significance

Based on Appendix G of the CEQA Guidelines and the County of San Diego Guidelines for Determining Significance, Noise, the proposed County General Plan Update would have a significant impact if it would result in a substantial temporary or periodic increase in ambient noise levels during construction which, together with noise from all sources, would exceed the standards listed in San Diego County Code Sections 36.408 and 36.409, Construction Equipment. Sections 36.408 and 36.409 state that, except for emergency work, it shall be unlawful for any person to operate or cause to be operated, construction equipment:

a. Between the hours of 7:00 p.m. and 7:00 a.m.

b. On a Sunday or a holiday. For the purposes of this section a holiday means January 1st, the last Monday in May, July 4th, the first Monday in September, December 25th and any day appointed by the President as a special national holiday or the Governor of the State as a special State holiday. A person may, however, operate construction equipment on a Sunday or holiday between the hours of 10:00 a.m. and 5:00 p.m. at the person's residence or for the purpose of constructing a residence for himself or herself, provided that the operation of construction equipment is not carried out for financial consideration or other consideration of any kind and does not violate the limitations in Sections 36.409 and 36.410**.**

c. That exceeds an average sound level of 75 decibels for an eight hour period, between 7 a.m. and 7 p.m., when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is being received.

The County Noise Ordinance also includes standards for other sources of temporary and nuisance noise. Section 36.410, Sound Level Limitations on Impulsive Noise, states that except for emergency work, no person shall produce or cause to be produced an impulsive noise that exceeds the following standards when measured at the boundary line of or on any occupied property for 25 percent of the minutes in the measurement period:

- 82 dBA at an occupied residential, village zoning, or civic use, or 85 dBA at an occupied agricultural, commercial, or industrial use; or
- 85 dBA at an occupied residential, village zoning, or civic use, or 90 dBA at an occupied agricultural, commercial, or industrial use for a public road project.

The minimum measurement period for any measurements conducted under this section shall be one hour. During the measurement period a measurement shall be conducted every minute from a fixed location on an occupied property. The measurements shall measure the maximum sound level during each minute of the measurement period. If the sound level caused by construction equipment or the producer of the impulsive noise exceeds the maximum sound level for any portion of any minute it will deemed that the maximum sound level was exceeded during that minute.

Section 36.413, Multiple Family Dwelling Units, states that, notwithstanding any other provisions of the Noise Ordinance, it shall be unlawful for any person to create, maintain or cause to be maintained any sound within the interior of any multiple family dwelling unit which causes the noises level to exceed 45 dBA between 10:00 p.m. and 7:00 a.m. and 55 dBA between 7:00 a.m. and 10:00 p.m. Additionally, it shall be unlawful for any person to generate an interior noise level to exceed 40 dBA for one minute in one hour or 35 dBA for five minutes in one hour between the hours of 10:00 p.m. and 7:00 a.m., or to exceed 50 dBA for one minute in one hour or 35 dBA for five minutes in one hour between the hours of 7:00 a.m. and 10:00 p.m.

Section 36.414, General Noise Regulations of the County of San Diego Noise Ordinance includes additional noise standards for disturbing, excessive or offensive noise. Generally, this section states that it shall be unlawful for any person to make, continue, or cause to be made or continued, any disturbing, excessive or offensive noise which causes discomfort or annoyance to reasonable persons of normal sensitivity residing in the area.

Section 36.416, Noise from Off-Road Recreational Vehicles, states that no person shall operate or allow the operation of an off-road recreational vehicle on private property that produces a noise when measured at the boundary line of or on any occupied property that at any time exceeds the following maximum sound levels: 82 decibels between the hours of 7:00 a.m. and 7:00 p.m., 77 decibels between the hours of 7:00 p.m. and 10:00 p.m., and 55 decibels between the hours of 10:00 p.m. and 7:00 a.m.

Impact Analysis

The construction of future land uses and infrastructure in the unincorporated County consistent with the General Plan Update would have the potential to result in the exposure of on-site or off-site areas to noise in excess of the standards listed in San Diego County Code Sections 36.408 and 36.409 associated with project-related activities including, but not limited to, site grading, truck/construction equipment movement, engine noise, rock excavation, rock crushing, and blasting. Typical construction equipment noise levels are provided in Table 2.11-18.

As described in greater detail in Chapter 1.0, Project Description, the majority of new development that would occur under the General Plan Update, approximately 80 percent, is planned to occur within the SDCWA boundary in the western region of the unincorporated County. Therefore, this area is more likely to be affected by temporary increases in ambient noise from construction as a result of land use development consistent with the General Plan Update. To a lesser degree, land use development would be allowed in the eastern areas of the unincorporated County, which would also have the potential to experience construction noise impacts. New or expanded land use development would require the construction of infrastructure that would have the potential to result in substantial construction noise. The majority of new infrastructure would be concentrated in the western region of the unincorporated County.

Additionally, noise from construction activity would have the potential to result in impacts to biological resources, specifically to animal species. To avoid noise impacts associated with construction activities, breeding birds and mammals would have the potential to temporarily or permanently leave their territories, which could lead to reduced reproductive success and increased mortality among these animal species. Noise impacts to sensitive animal species would result in a potentially significant impact. Please refer to Section 2.4, Biological Resources, which further addresses noise impacts to biological resources.

Nuisance Noise

Intermittent or temporary noise from amplified music, public address systems, barking dogs, landscape maintenance, or stand-by power generators are disturbing to residents but are difficult to attenuate and control. These noise sources would result in a significant impact if they would exceed the noise standards included in Sections 36.410, 36.413, 36.414, and 36.416 of the County Noise Ordinance. As shown in Table 2.11-4, noise complaints by residents show that the highest number of complaints is due to barking dogs. Nuisance noise impacts are more likely to occur in the more densely developed areas of the unincorporated County, where residences would be closer together and neighbors would be more likely to hear another neighbor's dog barking or music playing. The General Plan Update would allow intensified residential and mixed-use development in town centers, which would have the potential to result in an increased number of residents registering noise complaints from neighboring uses. The CPAs and Subregions proposed for the greatest amount of growth under the General Plan Update are the Desert Subregion, Mountain Empire Subregion, North Mountain Subregion, Otay Subregion, Pala/Pauma Valley Subregion, Rainbow CPA, and Valley Center CPA. Intensified development would be accommodated under the General Plan Update in the town centers of Central Mountain Subregion, Crest/Dehesa Subregion, Fallbrook CPA, Julian CPA, Mountain Empire Subregion, Rainbow CPA, San Dieguito CPA, and Valley Center CPA. Therefore, these areas of the unincorporated County are likely to experience an increase in temporary or nuisance noises. However, an attempt to quantify the potential number of future complaints would be speculative. Continuing enforcement of the County Noise Ordinance would reduce potential nuisance noise impacts in all areas of the unincorporated County to the extent feasible.

Federal, State, and Local Regulations and Existing Regulatory Processes

Construction and operations of future development under the General Plan Update would be required to comply with the County of San Diego Noise Ordinance. This regulation establishes sound level limits for the purpose of securing and promoting the public health, comfort, safety, peace, and quiet. This ordinance limits the time of day construction operations may occur and requires that the average sound level for a one hour period not exceed 75 dBA. Other noise generating equipment used would be required generate sound levels that would not exceed 45 dBA between 10:00 p.m. and 7:00 a.m. and 55 dBA between 7:00 a.m. and 10:00 p.m. within the interior of any multiple family dwelling unit. Additionally, the ordinance makes it unlawful for future residents of the unincorporated County to continue, or cause to be made or continued, any disturbing, excessive or offensive noise which causes discomfort or annoyance. In addition, future projects under the General Plan Update would be required to comply with CEQA, which requires projects to identify any potential impacts associated with temporary or periodic increases in ambient noise. Mitigation measures would be required for any significant impacts.

Proposed General Plan Update Policies

The proposed General Plan Update Noise Element contains several goals and policies that would reduce noise impacts from construction, temporary, and/or nuisance noise. Goal N-6 is to minimize the effects of intermittent, short-term, or other nuisance noise sources to noise sensitive land uses. This goal is supported by Policies N-6.1 through N-6.6. These policies develop and regularly update codes and ordinances as necessary to reduce impacts, minimize impacts from noise to land uses in areas with recurring intermittent noise, limit the use of high-noise equipment if their activity will result in noise that affects residential zones, limit the hours of operation as appropriate for nonemergency construction and maintenance activities near noise sensitive land uses, schedule special events sponsored by the County that would have the potential to generate excessive noise levels to daytime hours when feasible, and provide sufficient resources within the County for effective enforcement of County codes and ordinances.

Summary

Future development under the General Plan Update would have the potential to result in temporary increases in ambient noise levels due to construction of new land uses and infrastructure, as well as an increase in nuisance noise in areas where development would be intensified. While existing County policies and regulations and proposed General Plan Update goals and policies are intended to minimize temporary increases to ambient noise, specific measures that implement these policies and regulations are proposed to ensure that the intended protections are achieved. Therefore, the proposed project is concluded to result in a potentially significant impact associated with temporary increases to ambient noise and specific implementation programs are identified as mitigation.

2.11.3.5 Issues 5 and 6: Excessive Noise Exposure from a Public or Private Airport

Guidelines for Determination of Significance

Based on Appendix G of the CEQA Guidelines and the California Airport Land Use Planning Handbook, the proposed County General Plan Update would have a significant impact if it would expose people residing or working in the project area to excessive noise levels from a public airport. The level of noise acceptable to new development in the vicinity of proposed new airports, active military airports being converted to civilian use, and existing civilian airports is established as an annual CNEL of 60 dBA.

Impact Analysis

As described in Section 2.11.1.2, six public airports are located in the unincorporated County. These include Agua Caliente Airstrip (Desert Subregion), Borrego Valley Airport (Desert Subregion), Fallbrook Community Airpark (Fallbrook CPA), Jacumba Airport (Mountain Empire Subregion), Ocotillo Airstrip (Desert Subregion), and Ramona Airport (Ramona CPA). Gillespie Field is located in the City of El Cajon; however, its 60 dBA annual CNEL noise contour extends into Lakeside CPA. Current public airport operations are provided in Table 2.11-2. Additionally, 29 smaller private-use airports are scattered throughout the unincorporated County. Table 2.11-19 provides the acreages of noise sensitive land uses that would occur within the 60 dBA

annual CNEL contour of public airports and Table 2.11-20 provides noise sensitive land uses that would occur within 2 miles of private airports, since noise contours for these airports have not been developed. The Noise Technical Report (PBS&J 2009), included as Appendix F to the EIR, identifies the specific land use designations within each CPA and provides noise contour maps for individual public airports.

Under the General Plan Update, a total of 1,650 acres of land uses with the potential to result in the development of noise sensitive land uses would be located within the 60 dBA annual CNEL noise contour of a public airport. These acreages are based on conservative estimates representing the worst-case scenario. Though exterior noise attenuation is typically not possible for airborne sources of noise, the noise contours do not take into account any interior noise attenuation. Noise contours are based on the annual CNEL, and daily CNEL would have the potential to be higher or lower than this level depending on the day. The annual CNEL is more representative of noise levels in areas in the proximity of airports than the daily CNEL. Unlike traffic flows, which are generally consistent from day to day, airport operations fluctuate, resulting in varying daily CNEL noise levels. Additionally, this estimate assumes that the entire acreage would be developed with noise sensitive land uses, which is unlikely to occur. It is possible that the entire acreage would be developed with noise sensitive land uses that would be compatible with noise levels above 60 dBA according the Noise Compatibility Guidelines in Table 2.11-9. However, the acreage estimate represents entire areas that have been designated for a land use that would have the potential to accommodate some noise sensitive land uses. The affected areas are within the Desert Subregion, Lakeside CPA, and Ramona CPA. Within the Desert Subregion, a total of 152 acres of public/semi-public facilities (which would have the potential to include noise sensitive land uses such a hospitals or schools) and rural lands (which could include noise sensitive land uses such as residences) are located with the 60 dBA annual CNEL noise contour of the Borrego Valley Airport. A very small area, less that one acre, of designated public/semi-public facilities is located within the 60 dBA annual CNEL noise contour of Gillespie Field Airport in the Lakeside CPA. A total of 1,497 acres of open space, public/semi-public facilities, commercial, rural lands, semi-rural residential, and village residential land uses are designated within the 60 dBA annual CNEL noise contour of the Ramona Airport in the Ramona CPA. These areas could contain existing or future noise sensitive land uses, such as residential uses and educational facilities. Some communities may establish stricter noise standards for land uses near airports in their community plans, which will be updated as part of the General Plan Update process.

Under the General Plan Update, approximately 195,000 acres of land within two miles of a private airstrip is designated for land uses that include noise sensitive land uses. A two mile distance is considered the approximate 60 dBA annual CNEL noise contour when noise contours have not been established for an airport. As described above for public use airports, these acreages are based on conservative estimates representing the worst-case scenario. Though exterior noise attenuation is typically not possible for airborne source of noise, the noise contours do not take into account any interior noise attenuation. Additionally, it is reasonable to assume that the entire acreage would not be developed with noise sensitive land uses. The acreage estimate represents entire areas that have been designated for a land use that would have the potential to accommodate some noise sensitive land uses. Potentially affected CPAs and Subregions are Alpine CPA, Central Mountain Subregion, Desert Subregion, Jamul/Dulzura Subregion, Lakeside CPA, Mountain Empire Subregion, North County Metro Subregion, North Mountain Subregion, Otay Subregion, Pala/Pauma Valley Subregion, Ramona CPA, and Valley Center CPA. Land use designations potentially affected in Alpine CPA, Central Mountain Subregion, and Otay Subregion are low density designations such as rural land and federal and

State lands. Due to the low density of development allowed in rural areas and high amount of conservation land in federal and State lands and designated open space, these land uses have a low potential for noise impacts from airports than higher density land use designations. However, The General Plan Update would accommodate higher density land use designations such as village or semi-rural residential, or would have the potential to include public facilities such as schools and hospitals, within two miles of a public airstrip in the Desert Subregion, Jamul/Dulzura Subregion, Lakeside CPA, Mountain Empire Subregion, North County Metro Subregion, North Mountain Subregion, Pala/Pauma Valley Subregion, Ramona CPA, and Valley Center CPA. These land uses are more likely to be developed with noise sensitive land uses within the two mile vicinity of an airport due to their higher density growth potential.

Public airports and private airstrips would have the potential to result in excessive noise impacts to noise sensitive land uses from activities such as aircraft takeoffs and landings. Noise sensitive land uses should generally not be located within the 60 dBA annual CNEL noise contour of a public airport, or within two miles of a private airstrip. The General Plan Update does not propose any new public or private airstrips; however, it does propose land use designations that would allow noise sensitive land uses that would be exposed to excessive noise impacts from an existing public airport or private airstrip.

Federal, State, and Local Regulations and Existing Regulatory Processes

Future development under the General Plan Update would be required to comply with the 1990 California Airport Noise Standards that establish a CNEL value of 65 dBA as the level of noise acceptable to a reasonable person residing in the vicinity of an airport, and applicable ALUCPs. ALUCPs are plans that are intended to minimize the public's exposure to excessive noise within areas around public airports, and designate compatible and incompatible land uses surrounding the airport. However, ALUCPs are not required for private airstrips. Additionally, future discretionary projects proposed under the General Plan Update would be required to be consistent with CEQA, which requires that proposed projects identify all potential impacts associated with excessive noise from public or private airports. Mitigation measures such as double-paned windows and public statements such as the disclosure of potential overflight noise would be required for any significant impacts.

Proposed General Plan Update Goals and Policies

The Noise Element contains Policy N-4.9 that would reduce potential noise impacts to noise sensitive land uses. This policy assures the noise compatibility of development that would have the potential to be affected by noise from public or private airports and helipads during project review by coordinating, as appropriate, with appropriate agencies such as the SDCAA and the FAA. Additionally, the Safety Element includes Goal S-15 that minimizes the risk of personal injury to flight occupants as well as potential damage to ground-level persons and property. This goal is supported by Policies S-15.1, S-15.2, and S-15.4. These policies require land uses surrounding airports to be compatible with airport operations and require operational plans for new and existing airports to be compatible with land uses that surround the airport facility. In addition, these policies would ensure that private airstrips and heliports are located outside of the safety zones and flight paths of existing airports. These policies require land uses surrounding airports to be compatible with airport operations. Land use compatibility includes noise compatibility.

Summary

The proposed General Plan Update includes land use designations that would potentially result in the development of noise sensitive land uses near a public or private airstrip that would result in the exposure of persons to excessive noise levels. While existing County policies and regulations and proposed General Plan Update goals and policies are intended to minimize excessive noise from aircraft, specific measures that implement these policies and regulations are proposed to ensure that the intended protections are achieved. Therefore, the proposed project is concluded to result in a potentially significant impact associated excessive noise from aircraft and specific implementation programs are identified as mitigation.

2.11.4 Cumulative Impacts

The geographic scope of cumulative impact analysis for noise is limited to areas surrounding noise-generating sources, such as roadways, agricultural or industrial uses because noise impacts are localized in nature. The following five sections describe potentially significant cumulative noise impacts in the San Diego County vicinity and the proposed General Plan Update's contribution to potential cumulative noise impacts.

2.11.4.1 Issue 1: Excessive Noise Levels

A cumulative noise impact would occur if construction and operation associated with cumulative regional land use projects, such as those identified in adjacent city and county general plans and regional transportation plans, combined would exceed the noise compatibility guidelines and standards of the Noise Element listed in Tables 2.11-7 and 2.11-8. For example, the San Diego Regional Transportation Plan projects listed in Table 1-8, 2030 San Diego Regional Transportation Plan Projects, such as the expansion of a portion of I-8, would increase traffic noise above the Noise Element standards. However, development and construction proposed under most cumulative projects would be subject to regulations that require compliance with noise standards, such as those contained in the State of California Code of Regulations and by the OSM. The exception to this would be projects proposed in the Country of Mexico along the U.S./Mexico international border and on tribal lands. Therefore, even though required regulations would minimize the cumulative impact of projects in the U.S, development in Mexico along the U.S./Mexico international border or on tribal lands within the vicinity of existing noise sensitive land uses would not be required to comply with the same noise standards and a potentially significant cumulative impact would occur.

As discussed above in Section 2.11.3.1, Issue 1: Excessive Noise Levels, proposed development associated with build out of the General Plan Update would result in land uses exposed to noise levels in excess of noise compatibility guidelines and standards. Therefore, the proposed project, in combination with the identified cumulative projects, would have the potential to result in a significant cumulative impact associated with noise.

2.11.4.2 Issue 2: Excessive Groundborne Vibration

A cumulative ground-borne vibration impact would occur if one or more cumulative projects would exceed the FTA and Federal Railroad Administration guidelines for groundborne vibration and noise. However, there are no specific plans or time scales for individual construction projects. Therefore, it is not possible to determine exact vibration levels, locations, or time

periods for construction. Potential vibration impacts from construction would need to be analyzed on a case-by-case basis. Therefore, cumulative projects have the potential to result in a significant cumulative impact if they were located in close proximity to one another and construction of multiple cumulative projects were to occur at the same time. For example, construction of Bradley Avenue project in Lakeside CPA, listed in Table 1-11, Projects Not Included in the Proposed General Plan Update Land Use Map, would result in groundborne vibration. Lakeside CPA is a developed community of the unincorporated County and would accommodate further growth under the General Plan Update. Construction of the 30 residential units of the Bradley Avenue project at the same time as other construction projects in the proximity of existing vibration sensitive land uses would increase vibration levels beyond the standards in the County significance thresholds. However, most cumulative projects would be subject to the FTA and Federal Railroad Administration guidelines. The exception to this would be projects proposed in the Country of Mexico along the U.S./Mexico international border and on tribal lands. Therefore, even though required regulations would minimize the cumulative impact of projects in the U.S, development in Mexico along the U.S./Mexico international border or on tribal lands would not be required to comply with the same groundborne vibration standards and a potentially significant cumulative impact would occur.

As discussed above in Section 2.11.3.2, Issue 2: Excessive Groundborne Vibration, construction of new land uses under the General Plan Update and placement of new development in close proximity to existing railroads or extraction operations would have the potential to result in impacts associated with excessive groundborne vibration. Therefore, the proposed project, in combination with the identified cumulative projects, would have the potential to result in a significant cumulative impact associated with groundborne vibration.

2.11.4.3 Issue 3: Permanent Increase in Ambient Noise Levels

A cumulative noise impact would occur if construction and development associated with cumulative regional land use projects, such as those identified in adjacent city and county general plans and regional transportation plans, when combined would result in an increase in ambient noise that would exceed the County's noise standards. For example, RTP projects listed in Table 1-8, 2030 San Diego Regional Transportation Plan Projects, such as the extension of SR-905 from I-805 to the U.S./Mexico international border and widening of SR-94 from SR-125 to Jamacha Road, would result in a permanent increase in ambient noise due to an increase in roadway noise. However, development and construction proposed under most cumulative projects would be subject to regulations that require compliance with noise standards. The exception to this would be projects proposed in the Country of Mexico along the U.S./Mexico international border and on tribal lands. As discussed above in Section 2.11.1.2, the 24-hour noise measurement taken outside a casino as part of the community noise survey measured a CNEL of 73 dBA, approximately 60 feet from the centerline of the road providing access to the casino. This measurement suggests that future casino development on tribal lands, such as the projects listed in Table 1-12, Projects on Tribal Lands in San Diego County, could result in an increase in ambient noise due to increases in traffic on local roads associated with vehicles and passenger buses that transport customers to and from casinos. Therefore, even though required regulations would minimize the cumulative impact of projects in the U.S, development of land uses in Mexico along the U.S./Mexico international border or on tribal lands that permanently increase noise would not be required to comply with the same noise standards and a potentially significant cumulative impact could occur.

As discussed above in Section 2.11.3.3, Issue 3: Permanent Increase in Ambient Noise Levels, the General Plan Update would result in a permanent increase in ambient noise levels. Therefore, the General Plan Update, in combination with the identified cumulative projects located in close proximity to development consistent with the General Plan Update, would have the potential to result in a significant cumulative impact.

2.11.4.4 Issue 4: Temporary Increase in Ambient Noise Levels

A cumulative noise impact would occur if construction associated with one or more projects in close proximity to one another would result in combined noise levels that would temporarily increase ambient noise levels beyond the standards in the County Noise Ordinance. However, since there are no specific plans or time scales for individual projects, it is not possible to determine exact noise levels, locations, or time periods for construction. Additionally, projects would have to be constructed in close proximity to each other to result in a cumulative impact. Construction projects in incorporated jurisdictions would be subject to noise standards and limits for the jurisdiction in which they are proposed. Projects proposed in the Country of Mexico along the U.S./Mexico international border and on tribal lands would not be subject to County of San Diego noise regulations and standards; however, potential construction noise-related impacts in these areas would be temporary and limited to the area immediately surrounding the project. Similarly, a cumulative nuisance noise impact would occur if noise associated with one or more land uses in an area would result in combined noise levels that would temporarily increase ambient noise levels beyond the standards in the County Noise Ordinance. However, these events would be short-term and event-specific in nature. Therefore, a potentially significant cumulative impact associated with temporary increase in ambient noise levels would not occur. The proposed project would not contribute to a significant cumulative impact.

2.11.4.5 Issues 5 and 6: Excessive Noise Exposure from a Public or Private Airport

A cumulative noise impact would occur if construction and operation associated with cumulative regional land use projects, such as those identified in adjacent city and county general plans and regional transportation plans, when combined would result in the exposure of noise sensitive land uses to excessive noise from a public or private airport. Development and construction proposed under most cumulative projects would be subject to regulations that require compliance with noise standards, such as the 1990 California Airport Noise Standards and applicable ALUCPs. The exception to this would be projects proposed in the Country of Mexico along the U.S./Mexico international border and on tribal lands. It is possible that a new private airstrip would be proposed as part of a cumulative project on tribal land or in Mexico along the U.S./Mexico international border that would result in the exposure to noise sensitive land uses to excessive noise. For example, a health clinic is proposed for the Ewiiaapaay Reservation, as listed in Table 1-12, Projects on Tribal Lands in San Diego County. Health clinics sometimes include helipads to transport patients. Therefore, even though required regulations would minimize the cumulative impact of projects in the U.S, development in Mexico along the U.S./Mexico international border or on tribal lands within the vicinity of existing noise sensitive land uses would not be required to comply with the same noise standards and a potentially significant cumulative impact to would occur.

As discussed above in Section 2.11.3.5, Issues 5 and 6: Excessive Noise Exposure from a Public or Private Airport, proposed development associated with build out of the General Plan

Update would result in noise sensitive land uses exposed to excessive noise. Therefore, the proposed project, in combination with the identified cumulative projects, would have the potential to result in a significant cumulative impact associated with excessive aircraft noise.

2.11.5 Significance of Impact Prior to Mitigation

Prior to mitigation, the proposed General Plan Update would result in a potentially significant impact associated with excessive noise, excessive groundborne vibration, permanent increases in ambient noise, temporary increases in ambient noise, and excessive noise from a public or private airport. The proposed project would have the potential to result in cumulatively considerable contribution to potentially significant cumulative impacts associated with excessive noise, excessive groundborne vibration, permanent increases in ambient noise, and excessive noise from a public or private airport.

2.11.6 Mitigation

2.11.6.1 Issue 1: Excessive Noise Levels

The following General Plan Update policies and mitigation measures would reduce direct and cumulative proposed project impacts related to excessive noise levels to a less than significant level.

General Plan Update Policies

Policy LU-2.7: Mitigation of Development Impacts. Require measures that minimize significant impacts to surrounding areas from uses or operations that cause excessive noise, dust, odor, aesthetic impairment and/or are detrimental to human health and safety.

Policy M-1.3: Treatment of High-Volume Roadways. To avoid bisecting communities or town centers, consider narrower rights-of-way, flexibility in design standards, and lower design speeds in areas planned for substantial development. Reduce noise, air, and visual impacts of new freeways, regional arterials, and Mobility Element roads, through landscaping, design, and/or careful location of facilities.

Policy M-2.4: Roadway Noise Buffers. Incorporate buffers or other noise reduction measures consistent with standards established in the Noise Element into the siting and design of roads located next to sensitive noise-receptors to minimize adverse impacts from traffic noise. Consider reduction measures such as alternative road design, reduced speeds, alternative paving, and setbacks or buffers, prior to berms and walls.

Policy N-1.4: Adjacent Jurisdiction Noise Standards. Incorporate the noise standards of an adjacent jurisdiction into the evaluation of a proposed project when it has the potential to impact the noise environment of that jurisdiction.

Policy N-1.5: Regional Noise Impacts. Work with local and regional transit agencies and/or other jurisdictions, as appropriate, to provide services or facilities to minimize regional traffic noise and other sources of noise in the County.

Policy N-2.1: Development Impacts to Noise Sensitive Land Uses. Require an acoustical study to identify inappropriate noise levels where development may directly result in any existing or future noise sensitive land uses being subject to noise levels equal to or greater than 60 CNEL and require mitigation for sensitive uses in compliance with the noise standards listed in Table N-2 in the Noise Element.

Policy N-2.2: Balconies and Patios. Assure that in developments where the exterior noise level on patios or balconies for multi-family residences or mixed-use developments exceed 65 CNEL, a solid noise barrier is incorporated into the building design of the balconies and patios while still maintaining the openness of the patio or balcony.

Policy N-4.1: Traffic Noise. Require that projects proposing General Plan amendments that increase the average daily traffic beyond what is anticipated in this General Plan do not increase cumulative traffic noise to off-site noise sensitive land uses beyond acceptable levels.

Policy N-4.2: Traffic Calming. Include traffic calming design, traffic control measures, and low-noise pavement surfaces that minimize motor vehicle traffic noise in development that may impact noise sensitive land uses.

Policy N-4.3: Jurisdictional Coordination. Coordinate with California Department of Transportation (Caltrans), the City of San Diego, and other adjacent jurisdictions, as appropriate, for early review of proposed new and expanded State freeways, highways, and road improvement projects within or affecting the unincorporated County to: 1) locate facilities where the impacts to noise sensitive land uses would be minimized, and 2) develop and include noise abatement measures in the projects to minimize and/or avoid the impacts to noise sensitive land uses.

Policy N-4.5: Roadway Location. Locate new or expanded roads designated in the Mobility Element in areas where the impact to noise sensitive land uses would be minimized.

Policy N-4.7: Railway Jurisdictional Coordination. Work with the San Diego Association of Governments (SANDAG), Caltrans, Metropolitan Transit System (MTS), California High-Speed Rail Authority, and passenger and freight train operators as appropriate to install noise attenuation features to minimize impacts to adjacent residential or other noise sensitive uses from railroad operations.

Policy N-4.8: Train Horn Noise. Establish train horn "quiet zones" with new rail projects consistent with federal regulations, where applicable. Promote community programs for existing grade crossings by working with rail operators.

Mitigation Measures

Noi-1.1 Require an acoustical analysis whenever a new development may result in any existing or future noise sensitive land uses being subject to on-site noise levels of 60 dBA (CNEL) or greater, or other land uses that may result in noise levels exceeding the "Acceptable" standard in the Noise Compatibility Guidelines (Table N-1 in the Noise Element).

Noi-1.2 Revise the Guidelines for Determining Significance for new developments where the exterior noise level on patios or balconies for multi-family residences or

mixed-use development exceeds 65 dBA (CNEL), a solid noise barrier is incorporated into the building design of balconies and patios for units that exceed 65 dBA (CNEL) while still maintaining the openness of the patio or balcony.

Noi-1.3 Require an acoustical study for projects proposing amendments to the County General Plan Land Use Element and/or Mobility Element that propose a significant increase to the average daily traffic due to trips associated with the project beyond those anticipated in the General Plan.

Noi-1.4 Edit the Guidelines for Determining Significance standard mitigation and project design considerations to promote traffic calming design, traffic control measures, and low-noise pavement surfaces that minimize motor vehicle traffic noise.

Noi-1.5 Coordinate with Caltrans and SANDAG as appropriate to identify and analyze appropriate route alternatives that may minimize noise impacts to noise sensitive land uses within the unincorporated areas of San Diego County.

Noi-1.6 Coordinate with SANDAG, MTS, California High-Speed Rail Authority as appropriate, and passenger and freight train operators to install noise attenuation features to minimize impacts to adjacent residential or other noise sensitive land uses.

Noi-1.7 Work with project applicants during the scoping phase of proposed projects to take into consideration impacts resulting from on-site noise generation to noise sensitive land uses located outside the County's jurisdictional authority. The County will notify and coordinate with the appropriate jurisdiction(s) to determine appropriate project design techniques and/or mitigation.

Noi-1.8 Implement and/or establish procedures (or cooperative agreements) with Caltrans, the City of San Diego, and other jurisdictions as appropriate to ensure that a public participation process or forum is available for the affected community to participate and discuss issues regarding transportation generated noise impacts for new or expanded roadway projects that may affect noise sensitive land uses within the unincorporated areas of San Diego County.

Noi-1.9 Coordinate with Caltrans and the DPLU Landscape Architect, and receive input from community representatives as appropriate (e.g., Planning or Sponsor Group) to determine the appropriate noise mitigation measure (planted berms, noise attenuation barriers or a combination of the two) to be required as a part of the proposals for roadway improvement projects and ensure that the County's Five Year Capital Improvement Program and Preliminary Engineering Reports address noise impacts and appropriate mitigation measures for road improvement projects within or affecting the unincorporated area of the County.

2.11.6.2 Issue 2: Excessive Groundborne Vibration

The following General Plan Update policies and mitigation measures would reduce direct and cumulative proposed project impacts related to excessive groundborne vibration to below a significant level.

General Plan Update Policies

Policy N-3.1: Groundborne Vibration. Use the Federal Transit Administration and Federal Railroad Administration guidelines, where appropriate, to limit the extent of exposure that sensitive uses may have to groundborne vibration from trains, construction equipment, and other sources.

Policy N-4.7: Railway Jurisdictional Coordination. Work with the San Diego Association of Governments (SANDAG), Caltrans, Metropolitan Transit System (MTS), California High-Speed Rail Authority, and passenger and freight train operators as appropriate to install noise attenuation features to minimize impacts to adjacent residential or other noise sensitive uses from railroad operations.

Policy N-5.2: Noise-Generating Industrial Facilities. Locate noise-generating industrial facilities at the maximum practical distance from residential zones. Use setbacks between noise generating equipment and noise sensitive uses and limit the operation of noise generating activities to daytime hours as appropriate where such activities may affect residential uses.

Policy N-6.3: High-Noise Equipment. Require development to limit the frequency of use of motorized landscaping equipment, parking lot sweepers, and other high-noise equipment if their activity will result in noise that affects residential zones.

Policy N-6.4: Hours of Construction. Require development to limit the hours of operation as appropriate for non-emergency construction and maintenance, trash collection, and parking lot sweeper activity near noise sensitive land uses.

Mitigation Measures

Mitigation measure Noi-1.7 as described above is applicable to this issue and is incorporated here by reference. In addition, the following measures would further reduce impacts associated with excessive groundborne vibration.

Noi-2.1 For Land Use Designations defined in Table 2.11-14, a ground-borne vibration technical study shall be required for proposed land uses within the following distances from the Sprinter Rail Line right-of-way and the property line: 600 feet of a Category 1 Land Use, 200 feet of a Category 2 Land Use, and 120 feet of a Category 3 Land Use. If necessary, mitigation shall be required for land uses in compliance with the standards listed in Tables 2 and 3 of the County of San Diego Guidelines for Determining Significance - Noise.

Noi-2.2 Revise the County CEQA determinations of significance to reflect limits in the Noise Compatibility Guidelines and Noise Standards [Policy N-3.1]. Periodically review the Guidelines for Determining Significance to incorporate standards for minimizing effects of groundborne vibration during project operation or construction.

Noi-2.3 Review project applications for industrial facilities to ensure they are located in areas that would minimize impacts to noise-sensitive land uses. Revise CEQA Guidelines for Determining Significance to incorporate appropriate noise attenuation measures for minimizing industrial-related noise.

Noi-2.4 Require an acoustical study whenever a proposed extractive land use facility may result in a significant noise impact to existing noise sensitive land uses, or when a proposed noise sensitive land use may be significantly affected by an existing extractive land use facility. The results of the acoustical study may require a "buffer zone" to be identified on all Major Use Permit applications for extractive facilities whenever a potential for a noise impact to noise sensitive land uses may occur.

2.11.6.3 Issue 3: Permanent Increase in Ambient Noise Levels

The proposed General Plan Update would result in a potentially significant impact associated with a permanent increase in ambient noise levels. General Plan Update policies and mitigation measures (described below) have been identified that would reduce impacts associated with a permanent increase in ambient noise levels to a level below significance; however, the County has determined that their implementation would be infeasible. A discussion of infeasible mitigation measures, as well as General Plan policies and feasible mitigation measures is provided below.

Infeasible Mitigation Measures

The following measure was considered in attempting to reduce impacts associated with permanent increases in ambient noise levels to below a level of significance. However, the County has determined that this measure would be infeasible, as described below. Therefore, this mitigation measure would not be implemented.

- Prohibit new roadways or roadway improvements that would result in a significant increase in the ambient noise level. The measure would prohibit the construction of many roadway projects proposed in the Circulation Element because they would result in increases in ambient noise. This measure is infeasible because it would restrict future development in areas identified for increased growth under the General Plan Update because new roadways to serve this growth would not be constructed. Additionally, this mitigation measure would conflict with the project objective to provide and support a multi-modal transportation network that enhances connectivity and supports community development patterns because it would prohibit the development of new roadways.

Because the measure listed above have been found to be infeasible, impacts would remain significant and unavoidable. Chapter 4.0, Project Alternatives, provides a discussion of several land use alternatives to the proposed project that would result in some reduced impacts associated with a permanent increase in ambient noise levels as compared to the proposed project.

General Plan Update Policies

The following policies would reduce impacts associated with permanent increases in ambient noise level, but not to below a significant level.

Policy LU-2.7: Mitigation of Development Impacts. Require measures that minimize significant impacts to surrounding areas from uses or operations that cause excessive noise, dust, odor, aesthetic impairment and/or are detrimental to human health and safety.

Policy M-1.3: Treatment of High-Volume Roadways. To avoid bisecting communities or town centers, consider narrower rights-of-way, flexibility in design standards, and lower design speeds in areas planned for substantial development. Reduce noise, air, and visual impacts of new freeways, regional arterials, and Mobility Element roads, through landscaping, design, and/or careful location of facilities.

Policy M-2.4: Roadway Noise Buffers. Incorporate buffers or other noise reduction measures consistent with standards established in the Noise Element into the siting and design of roads located next to sensitive noise-receptors to minimize adverse impacts from traffic noise. Consider reduction measures such as alternative road design, reduced speeds, alternative paving, and setbacks or buffers, prior to berms and walls.

Policy N-1.5: Regional Noise Impacts. Work with local and regional transit agencies and/or other jurisdictions, as appropriate, to provide services or facilities to minimize regional traffic noise and other sources of noise in the County.

Policy N-4.1: Traffic Noise. Require that projects proposing General Plan amendments that increase the average daily traffic beyond what is anticipated in this General Plan do not increase cumulative traffic noise to off-site noise sensitive land uses beyond acceptable levels.

Policy N-4.2: Traffic Calming. Include traffic calming design, traffic control measures, and low-noise pavement surfaces that minimize motor vehicle traffic noise in development that may impact noise sensitive land uses.

Policy N-4.6: Road Improvement Projects. For County road improvement projects, evaluate the proposed project against ambient noise levels to determine whether the project would increase ambient noise levels by more than three decibels. If so, apply the limits in the noise standards listed in Table N-2 for noise sensitive land uses that may be affected by the increased noise levels. For federally funded roadway construction projects, use the limits in the applicable Federal Highway Administration Standards.

Policy N-5.1: Truck Access. Design development so that automobile and truck access to industrial and commercial properties abutting residential properties is located at the maximum practical distance from residential zones.

Policy N-5.2: Noise-Generating Industrial Facilities. Locate noise-generating industrial facilities at the maximum practical distance from residential zones. Use setbacks between noise generating equipment and noise sensitive uses and limit the operation of noise generating activities to daytime hours as appropriate where such activities may affect residential uses.

Mitigation Measures

Mitigation measures Noi-1.3, Noi-1.4, Noi-1.5, Noi-1.8, Noi-2.3 and Noi-2.4 as described above are applicable to this issue and are incorporated here by reference. In addition, the following measures would further reduce impacts associated with permanent increases in ambient noise levels, although not to below a significant level.

Noi-3.1 Ensure that for new County road improvement projects either the County's Noise Standards are used to evaluate noise impacts or the project does not exceed 3 decibels over existing noise levels [Policy N-4.6]

Noi-3.2 Work with the project applicant during the review of either the building permit or discretionary action (whichever is applicable) to determine appropriate noise reduction site design techniques that include:

- Orientation of loading/unloading docks away from noise sensitive land uses
- Setbacks or buffers to separate noise generating activities from noise sensitive land uses
- Design on-site ingress and egress access away from noise sensitive land uses [Policy N-5.1]

2.11.6.4 Issue 4: Temporary Increase in Ambient Noise Levels

The following General Plan Update policies and mitigation measures would reduce the direct impacts associated with the General Plan Update to below a significant level.

General Plan Update Policies

Policy N-6.1: Noise Regulations. Develop and regularly update codes and ordinances as necessary to regulate impacts from point, intermittent, and other disruptive noise sources.

Policy N-6.2: Recurring Intermittent Noise. Minimize impacts from noise in areas where recurring intermittent noise may not exceed the noise standards listed in Table N-2, but can have other adverse effects.

Policy N-6.3: High-Noise Equipment. Require development to limit the frequency of use of motorized landscaping equipment, parking lot sweepers, and other high-noise equipment if their activity will result in noise that affects residential zones.

Policy N-6.4: Hours of Construction. Require development to limit the hours of operation as appropriate for non-emergency construction and maintenance, trash collection, and parking lot sweeper activity near noise sensitive land uses.

Policy N-6.5: Special Events. Schedule special events sponsored by the County that may generate excessive noise levels to daytime hours when feasible.

Policy N-6.6: Code Enforcement. Provide sufficient resources within the County for effective enforcement of County codes and ordinances.

Mitigation Measures

Noi-4.1 Periodically review and revise the Noise Ordinance and Section 6300 of the Zoning Ordinance as necessary to ensure appropriate restrictions for intermittent, short-term, or other nuisance noise sources.

Noi-4.2 Augment staff and equipment as appropriate to facilitate enforcement of the Noise Ordinance.

2.11.6.5 Issues 5 and 6: Excessive Noise Exposure from a Public or Private Airport

The following General Plan Update policies and mitigation measures would reduce the direct and cumulative impacts associated with the General Plan Update to below a significant level.

General Plan Update Policies

Policy N-4.9: Airport Compatibility. Assure the noise compatibility of any development projects that may be affected by noise from public or private airports and helipads during project review by coordinating, as appropriate, with appropriate agencies such as the San Diego County Regional Airport Authority (SDCRAA) and the Federal Aviation Administration (FAA).

Policy S-15.1: Land Use Compatibility. Require land uses surrounding airports to be compatible with the operation of each airport.

Policy S-15.2: Airport Operational Plans. Require operational plans for new public/private airports and heliports, as well as future operational changes to existing airports, to be compatible with existing and planned land uses that surround the airport facility.

Policy S-15.4: Private Airstrip and Heliport Location. Locate private airstrips and heliports outside of safety zones and flight paths for existing airports where they are compatible with surrounding established and planned land uses, and in a manner to avoid impacting public roadways and facilities.

Mitigation Measures

Noi-5.1 Use the applicable Airport Land Use Compatibility Plan's (ALUCP) as guidance/reference during development review of projects that are planned within an Airport Influence Area (AIA). Any projects that are found incompatible with the Airport Land Use Compatibility Plan noise criteria should be reviewed by the SDCAA.

Noi-5.2 Evaluate noise exposure impacts related to a private airport or heliport use or consistency with the FAA standards.

Noi-5.3 Consult with the FAA standards and the County Noise Ordinance as a guide for assessing noise impacts from private airports and helipads.

2.11.7 Conclusion

The discussion below provides a synopsis of the conclusion reached in each of the above impact analyses, and the level of impact that would occur after mitigation measures are implemented.

2.11.7.1 Issue 1: Excessive Noise Levels

Implementation of the proposed General Plan Update would have the potential to expose land uses to noise levels in excess of noise compatibility guidelines. Therefore, the proposed project would result in a potentially significant impact. In addition, the proposed project would have the potential to contribute to a potentially significant cumulative impact associated with excessive noise levels. However, implementation of the proposed General Plan Update policies, and corresponding mitigation measures would mitigate these impacts to a level below significant.

2.11.7.2 Issue 2: Excessive Groundborne Vibration

Implementation of the General Plan Update would have the potential to affect groundborne vibration sensitive land uses near the Sprinter Rail Line and where construction equipment would operate within vibration-sensitive land uses. Therefore, the proposed project would result in a potentially significant impact. In addition, the proposed project would have the potential to contribute to a potentially significant cumulative impact associated with excessive groundborne vibration. However, implementation of the proposed General Plan Update policies and mitigation measures would reduce the project's potential direct impact and contribution to a cumulative impact to a less than significant level.

2.11.7.3 Issue 3: Permanent Increase in Ambient Noise Levels

Implementation of the General Plan Update would permanently increase ambient noise along roadways. Therefore, the proposed project would result in a potentially significant impact. Additionally, General Plan Update would result in a cumulatively considerable contribution to a potentially significant cumulative impact. Although implementation of the proposed General Plan Update policies and mitigation measures would reduce the project's direct impact and contribution to a cumulative impact to the extent feasible, impacts associated with permanent noise increases would remain significant and unavoidable. Alternatives that would further reduce this noise impact as compared to the proposed project are discussed in Chapter 4.0, Project Alternatives.

2.11.7.4 Issue 4: Temporary Increase in Ambient Noise Levels

Implementation of the General Plan Update would have the potential to temporarily increase ambient noise from construction activity as well as other sources of temporary or nuisance noise. Therefore, the proposed project would result in a potentially significant impact. However, implementation of the proposed General Plan Update policies and mitigation measures, in addition to compliance with applicable regulations, would mitigate the proposed project's direct impacts to a less than significant level. In addition, the proposed project would not contribute to a potentially significant cumulative impact associated with a temporary increase in ambient noise levels.

2.11.7.5 Issues 5 and 6: Excessive Noise Exposure from a Public or Private Airport

Implementation of the General Plan Update would have the potential to expose noise sensitive land uses to excessive noise from a public or private airport. Therefore, the proposed project would result in a potentially significant impact. In addition, the proposed project would have the potential to contribute to a potentially significant cumulative impact associated with excessive noise exposure from airports. However, implementation of the proposed General Plan Update policies and corresponding implementation projects, in addition to compliance with the 1990 California Airport Noise Standards and applicable ALUCPs, would reduce potential direct and cumulative impacts to a less than significant level.

Table 2.11-1. Typical A-Weighted Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	— 110 —	Rock band
Jet fly over at 1,000 feet		
	— 100 —	
Gas lawn mower at 3 feet		
	— 90 —	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	— 80 —	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower, 100 feet	— 70 —	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	— 60 —	
		Large business office
Quiet urban daytime	— 50 —	Dishwasher next room
Quiet urban nighttime	— 40 —	Theater, large conference room (background)
Quiet suburban nighttime		
	— 30 —	Library
Quiet rural nighttime		Bedroom at night, concert
	— 20 —	
		Broadcast/recording studio
	— 10 —	
Lowest threshold of human hearing	— 0 —	Lowest threshold of human hearing

Source: Caltrans 1998

Table 2.11-2. Current Public Airport Operations in the Unincorporated County

Airport Name	Annual Operations (2007)	Based Aircrafts
Agua Caliente Airstrip	4,400	1
Borrego Valley Airport	26,251	23
Fallbrook Airpark	33,286	125
Gillespie Field[(1)]	300,391	978
Jacumba Airport	325	0
Ocotillo Airport	800	0
Ramona Airport	134,691	209

(1) This airport is located in the City of El Cajon but noise contours extend into the Lakeside CPA.

Source: DPW 2008d

Table 2.11-3. Typical Extraction Equipment Noise Levels

Description	Distance from Source (ft)	Hourly Leq (dBA)
Aggregate Washing Plant	50	75
Asphalt Plant	50	82
Bridge Saw	50	78
Bulldozer	50	81
Concrete Batch Plant	50	81
Diamond Wire Block Saw	50	68
Drill Rig	50	85
Front End Loader	50	72
Hydraulic Excavator	50	77
Motor Grader	50	91
Power Screen	50	76
Power Shovel	50	75
Rock Crusher	50	75
Wheel Polisher	50	50

Sources: Kimley-Horn and Associates, Inc. 2005; Pacific Noise Control 1996; URS 2002; URS 2003

Table 2.11-4. Noise Complaints by Community (2006)

Community[1]	Bird	Construction	Dog	Machinery	Music	Off-road Vehicles	Rooster	Total
Alpine			9			3		12
Bonsall		1	16	3	1		5	26
Borrego Springs			2	1				3
Boulevard		1	1			1		3
Campo/Lake Morena			2	1			1	4
Crest/Dehesa	3		32	3		2	2	42
Descanso						1		1
Fallbrook		1	34	3	1	1	8	48
Jacumba			1					1
Jamul/Dulzura			7	4		1	1	13
Julian		1	2				1	4
Lakeside	1		28	2	1	5	1	38
Pala/Pauma Valley			1	1				2
Pine Valley			9					9
Ramona		1	22	1	1	3	1	29
San Dieguito	1	1	31	3	4		1	41
Spring Valley	2	3	56	2	3		6	72
Sweetwater		1	12	3			1	17
Tecate				1				1
Twin Oaks Valley			5				1	6
Valle de Oro	1		42		1		3	47
Valley Center	2	2	38	2		5	5	54
Total	**10**	**12**	**350**	**30**	**12**	**22**	**37**	**473**

[1] Communities with no reported noise complaints in 2006 are not included in this table.
Source: County 2006

Table 2.11-5. Summary of Community Noise Levels

Major Noise Sources	Noise Level (Leq)[1]
Freeways and Highways	70 dBA
Major Arterials	66 – 71 dBA
Passenger Rail	70 dBA
Airports	56 dBA
Commercial	65 – 69 dBA
Industrial	61 – 62 dBA
Agricultural	44 – 68 dBA
Casino	66 dBA
Other Uses	59 – 74 dBA
Noise-Sensitive Uses	43 – 65 dBA

[1] All noise levels are short-term (15-minute) measurements
Source: PBS&J 2009

Table 2.11-6. Summary of Noise Levels for 24-Hour Monitoring Sites

Location	Distance from Roadway Centerline (ft)	CNEL	24-Hour L_{EQ}	Hourly L_{EQ}	L_{10}	L_{90}	L_{MIN}
I-15 between Pala Road and Lilac Road	220	66 dBA	62 dBA	53-66 dBA	66 dBA	53 dBA	37-64 dBA
Wildcat Canyon Road (near casino)	60	73 dBA	67 dBA	61-70 dBA	72 dBA	40 dBA	36-49 dBA

Source: PBS&J 2009

Table 2.11-7. Noise Compatibility Criteria Alternatives

	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
Criteria	• Set by the FAA and other federal agencies as level above which residential land uses may be incompatible if not acoustically treated. • Established by California State regulations as the maximum normally acceptable for residential and certain other land uses at county-designated noise-problem airports. • Schultz curve predicts that about 13% of the population will be highly annoyed at this noise exposure.	• The contour within which California Building Code (Section 1208A) requires an acoustical analysis of proposed residential structures, other than detached single-family dwellings. • Suggested by the California Office of Planning and Research *General Plan Guidelines* as the maximum "normally acceptable" noise exposure for residential areas. • Individual noise events will occasionally cause significant interference with residential land use activities, particularly outdoor activities, in quiet suburban/rural communities. • Schultz curve indicates about 7% of population highly annoyed.	• Identified by the U.S. Environmental Protection Agency as the level below which "undue interference with activity and annoyance" will not occur. • Individual noise events will seldom significantly interfere with residential land use activities (e.g., interference with speech). • Schultz curve shows about 4% of population highly annoyed at this noise level. • In urban areas, aircraft contribution to this noise level may be less than that of other noise sources.
Suggested Applicability	• Generally not appropriate for most new development. • May be acceptable in noisy urban locations and/or in hot climates where most buildings are air conditioned.	• Suitable for new development around most airports. • Particularly appropriate in mild climates where windows are often open.	• Suitable for airports in quiet, rural locations.

Source: Caltrans 2002b

Table 2.11-8. Adjustment Factors for Obtaining Normalized CNEL

Type of Correction	Description	Amount of Correction to be Added to Measured CNEL in dBA[(1)]
Seasonal Correction	Summer (or year-round operation).	0
	Winter only (or windows always closed).	– 5
Correction for Outdoor Noise Level Measured in Absence of Intruding Noise	Quiet suburban or rural community (remote from large cities and from industrial activity and trucking).	+ 10
	Normal suburban community (not located near industrial activity).	+ 5
	Urban residential community (not immediately adjacent to heavily traveled roads and industrial areas).	0
	Noisy urban residential community (near relatively busy roads or industrial areas).	– 5
	Very noisy urban residential community.	– 10
Correction for Previous Exposure & Community Attitudes	No prior experience with the intruding noise.	+ 5
	Community has had some previous exposure to intruding noise but little effort is being made to control the noise. This correction may also be applied in a situation where the community has not been exposed to the noise previously, but the people are aware that bona fide efforts are being made to control the noise.	0
	Community has had considerable previous exposure to the intruding noise and the noise maker's relations with the community are good.	– 5
	Community aware that operation causing noise is very necessary and it will not continue indefinitely. This correction can be applied for an operation of limited duration and under emergency circumstances.	– 10
Pure Tone or Impulse	No pure tone or impulsive character.	0
	Pure tone or impulsive character present.	+ 5

(1) Notes: Source document uses the equivalent DNL metric.
Source: Caltrans 2002b

Table 2.11-9. Noise Compatibility Guidelines

Land Use Category		Exterior Noise Level (CNEL)					
		55	60	65	70	75	80
A	Residential—single family residences, mobile homes, senior housing, convalescent homes						
B	Residential—multi-family residences, mixed-use (commercial/residential)						
C	Transient lodging—motels, hotels, resorts						
D[(1)]	Schools, churches, hospitals, nursing homes, child care facilities						
E[(1)]	Passive recreational parks, nature preserves, contemplative spaces, cemeteries						
F[(1)]	Active parks, golf courses, athletic fields, outdoor spectator sports, water recreation						
G[(1)]	Office\professional, government, medical\dental, commercial, retail, laboratories						
H[(1)]	Industrial, manufacturing, utilities, agriculture, mining, stables, ranching, warehouse, maintenance/repair						

ACCEPTABLE—Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal construction, without any special noise insulation requirements.

CONDITIONALLY ACCEPTABLE—New construction or development should be undertaken only after a detailed noise analysis is conducted to determine if noise reduction measures are necessary to achieve acceptable levels for land use. Criteria for determining exterior and interior noise levels are listed in Table 3, Noise Standards. If a project cannot mitigate noise to a level deemed Acceptable, the appropriate County decision-maker must determine that mitigation has been provided to the greatest extent practicable or that extraordinary circumstances exist.

UNACCEPTABLE—New construction or development shall not be undertaken.

(1) Denotes facilities used for part of the day; therefore, an hourly standard would be used rather than CNEL
Source: DPLU 2009a

Table 2.11-10. Noise Standards

	Noise Standard
1	The exterior noise level (as defined below in Noise Standard 4) standard for Category A shall be 60 CNEL, and the interior noise level standard for indoor habitable rooms shall be 45 CNEL.
2	The exterior noise level standard for Categories B and C shall be 65 CNEL, and the interior noise level standard for indoor habitable rooms shall be 45 CNEL.
3	The exterior noise level standard for Categories D and G shall be 65 CNEL and the interior noise level standard shall be 50 dBA L_{eq} (one hour average).
4	For single-family detached dwelling units, "exterior noise level" is defined as the noise level measured at an outdoor living area which adjoins and is on the same lot as the dwelling, and which contains at least the following minimum net lot area: *(i)* for lots less than 4,000 square feet in area, the exterior area shall include 400 square feet, *(ii)* for lots between 4,000 square feet to 10 acres in area, the exterior area shall include 10 percent of the lot area; *(iii)* for lots over 10 acres in area, the exterior area shall include 1 acre.
5	For all other residential land uses, "exterior noise level" is defined as noise measured at exterior areas which are provided for private or group usable open space purposes. "Private Usable Open Space" is defined as usable open space intended for use of occupants of one dwelling unit, normally including yards, decks, and balconies. When the noise limit for Private Usable Open Space cannot be met, then a Group Usable Open Space that meets the exterior noise level standard shall be provided. "Group Usable Open Space" is defined as usable open space intended for common use by occupants of a development, either privately owned and maintained or dedicated to a public agency, normally including swimming pools, recreation courts, patios, open landscaped areas, and greenbelts with pedestrian walkways and equestrian and bicycle trails, but not including off-street parking and loading areas or driveways.
6	For non-residential noise sensitive land uses, exterior noise level is defined as noise measured at the exterior area provided for public use.
7	For noise sensitive land uses that are not occupied on a 24-hour basis (a portion of the day), interior and exterior noise standards may be based on shorter periods such as an 8-hour exposure level or the one-hour average sound level using a worst case noise scenario (the limiting case)
8	The exterior noise standard does not apply for land uses where no exterior use area is proposed or necessary, such as a library.
9	For Categories E and F the exterior noise level standard shall not exceed the limit defined as "Acceptable" in Table 2.11-7 or an equivalent one-hour noise standard.

Source: DPLU 2009a

Table 2.11-11. San Diego County Noise Ordinance Exterior Noise Standards

Zone[1]	Limit One-Hour dBA[2]	Time Period
(1) R-S, R-D, R-R, R-MH, A-70, A-72, S-80, S-81, S-87, S-90, S-92, R-V, and R-U with a density of less than 11 dwelling units per acre.	50 dBA	7:00 a.m. – 10:00 p.m.
	45 dBA	10:00 p.m. – 7:00 a.m.
(2) R-RO, R-C, R-M, S-86, RV, AND R-U with a density of 11 or more dwelling units per acre.	55 dBA	7:00 a.m. – 10:00 p.m.
	50 dBA	10:00 p.m. – 7:00 a.m.
(3) S-94, V4, and all commercial zones.	60 dBA	7:00 a.m. – 10:00 p.m.
	55 dBA	10:00 p.m. – 7:00 a.m.
(4) V1, V2	60 dBA	7:00 a.m. – 7:00 p.m.
	55 dBA	7:00 p.m. – 10:00 p.m.
V1	55 dBA	10:00 p.m. – 7:00 a.m.
V2	50 dBA	10:00 p.m. – 7:00 a.m.
V3	70 dBA	7:00 a.m. – 10:00 p.m.
	65 dBA	10:00 p.m. – 7:00 a.m.
(5) M-50, M-52, M-54	70 dBA	Anytime
(6) S-82, M-56, and M-58.	75 dBA	Anytime
(7) S-88[3]	See below	

[1] Refer to the San Diego County Zoning Ordinance for a list of zones represented by the abbreviations in this table. Online URL: http://www.sdcounty.ca.gov/dplu/zoning/index.html

[2] If the measured ambient noise level exceeds the applicable limit, the allowable one-hour average sound level shall be the one-hour average ambient noise level, plus three decibels. The ambient noise level shall be measured when the alleged noise violation source is not operating

[3] S-88 zones are Specific Planning Areas which allow different uses. The sound level limits that apply in an S-88 zone depend on the use being made of the property. The limits in subsection (1) apply to property with a residential, agricultural or civic use. The limits in subsection (3) apply to property with a commercial use. The limits in subsection (5) apply to property with an industrial use that would only be allowed in an M50, M52 or M54 zone. The limits in subsection (6) apply to all property with an extractive use or a use that would only be allowed in an M56 or M58 zone.

Notes: The sound levels limit at a location on a boundary between two zones is the arithmetic mean of the respective limits for the two zones. The one-hour average sound level limit applicable to extractive industries, however, including but not limited to borrow pits and mines, shall be 75 decibels at the property line regardless of the zone in which the extractive property is located.

A fixed-location public utility distribution or transmission facility located on or adjacent to a property line shall be subject to the sound level limits of this section measured at or beyond six feet from the boundary of the easement upon which the facility is located.

Source: County 2008b. Effective January 9, 2009.

Table 2.11-12. Land Uses within the Roadway Contours with the Potential to be Exposed to Noise Levels Exceeding Noise Compatibility Guidelines (in acres)

Planning Area	Area within CNEL Contour (acres)			
	60 dBA	65 dBA	70 dBA	75 dBA
Alpine	3,264	1,052	126	4
Bonsall	5,395	1,056	60	0
Central Mountain	1,841	2,308	0	0
County Islands	79	240	0	0
Crest/Dehesa	903	204	4	0
Desert	199	76	0	0
Fallbrook	5,074	1,681	149	0
Jamul/Dulzura	1,086	333	27	0
Julian	148	6	0	0
Lakeside	3,300	2,741	357	48
Mountain Empire	6,068	5,326	18	0
North County Metro	5,454	2,153	160	12
North Mountain	543	387	0	0
Otay	0	1,619	0	0
Pala/Pauma Valley	826	321	0	0
Pendleton/De Luz	139	0	4,173	0
Rainbow	2,001	338	58	0
Ramona	1,863	367	46	0
San Dieguito	924	705	0	0
Spring Valley	0	1,757	142	0
Sweetwater	727	1,304	104	0
Valle De Oro	308	1,618	89	0
Valley Center	3,112	247	21	0
Countywide Total	**43,254**	**25,840**	**5,534**	**64**

Note: Data has been rounded to nearest whole number.
Source: DPLU GIS 2008

Table 2.11-13. Designated Noise Sensitive Land Uses within the 60 dBA (CNEL) Railroad Contour

CPA/Subregion	Railroad	Total Acres Per Planning Area
Mountain Empire	San Diego & Arizona Eastern Railway Desert Line	1,561
North County Metro	North County Transit District Sprinter Line	53
Total Acres		**1,614**

Note: Designated noise sensitive land uses are land uses designated under the General Plan Update that may accommodate development of noise sensitive land uses, primarily residential uses, public and private educational facilities, hospitals, convalescent homes, hotels/motels, daycare facilities, and passive recreational parks. The entire acreage would not necessarily be developed with noise sensitive land uses. Data has been rounded.
Source: DPLU GIS 2008

Table 2.11-14. Ground-borne Vibration and Noise Standards[1]

Land Use Category [2]	Definition	Ground-Borne Vibration Impact Levels (inches per second RMS)		Ground-Borne Noise Impact Levels (dB re 20 micro Pascals)	
		Frequent Events[3]	Occasional or Infrequent Events[4]	Frequent Events[3]	Occasional or Infrequent Events[4]
Category 1	Buildings where low ambient vibration is essential for interior operations (research & manufacturing facilities with special vibration constraints).	0.0018[5]	0.0018[5]	Not Applicable	Not Applicable
Category 2[6]	Residences and buildings where people normally sleep (hotels, hospitals, residences, & other sleeping facilities).	0.0040	0.010	35 dBA	43 dBA
Category 3[6]	Institutional land uses with primarily daytime use (schools, churches, libraries, other institutions, & quiet offices).	0.0056	0.014	40 dBA	48 dBA

RMS = root mean squared

(1) Vibration-sensitive equipment is not sensitive to ground-borne noise.

(2) There are some buildings, such as concert halls, TV and recording studios, and theaters that can be very sensitive to vibration and noise but do not fit into any of the three categories. Refer to Table 3 in the County of San Diego Guidelines for Determining Significance, Noise for acceptable levels of ground-borne vibration and noise for these various types of special uses.

(3) "Frequent Events" is defined as more than 70 vibration events per day. Most rapid transit projects fall into this category.

(4) "Occasional or Infrequent Events" are defined as fewer than 70 vibration events per day. This combined category includes most commuter rail systems.

(5) This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration sensitive manufacturing or research will require detailed evaluation to define acceptable vibration levels. Ensuring lower vibration levels in a building often requires special design of the HVAC systems and stiffened floors.

(6) For Categories 2 and 3 with occupied facilities, isolated events such as blasting are significant when the PPV exceeds one inch per second. Non-transportation vibration sources such as impact pile drivers or hydraulic breakers are significant when their PPV exceeds 0.1 inch per second.

Source: DPLU 2009c

Table 2.11-15. Typical Levels of Groundborne Vibration

Typical Vibration Sources	Human/Structural Response	Vibration Level (50 ft from Source)	
		VdB[(1)]	in/sec RMS
Blasting from construction projects	Threshold, minor cosmetic damage to fragile buildings	100	0.01
Bulldozers and other heavy tracked construction equipment	Difficulty with tasks such as reading	90-100	0.003-0.01
Commuter rail and rapid transit, upper range	Residential annoyance, infrequent events (e.g., commuter rail)	80-90	0.001-0.003
Typical commuter rail, bus or truck over bump, typical rapid transit	Residential annoyance, frequent events (e.g., rapid transit)	70-80	0.0003-0.001
Bus or truck, typical	Limit for vibration sensitive equipment. Approximate threshold for human perception	60-70	0.0001-0.0003
Typical background vibration	Not detectable.	50	0.00003

(1) RMS vibration velocity level in VdB relative to 10^{-6} inches/second
Source: FTA 2006

Table 2.11-16. Increases in Noise Levels along Mobility Element Roadways

Roadway	Segment	Existing Class	Existing CNEL[(1)]	Future Class	Future CNEL[(1)]	Change
Mission Road	Green Canyon Road to Triple Crown	C	64 dBA	MA	71 dBA	+7 dBA
Gopher Canyon Road	Ormsby Road to I-15	C	64 dBA	MA	71 dBA	+7 dBA
Ormsby Road	East Vista to Gopher Canyon Road	C	64 dBA	MA	71 dBA	+7 dBA
Buena Creek Road	South Santa Fe to Twin Oaks	C	64 dBA	MA	71 dBA	+7 dBA
Monte Vista Road	Foothill Rd to Buena Creek Road	C	64 dBA	MA	71 dBA	+7 dBA
Deer Springs Road	Marilyn Road to I-15	C	64 dBA	PA	77 dBA	+13 dBA
Mountain Meadow Road	I-15 to North Broadway	C	64 dBA	MA	71 dBA	+7 dBA
Pala Road	I-15 to Causer Canyon	C	64 dBA	MA	71 dBA	+7 dBA
Cole Grade Road	Horse Creek Road to Fruitvale	C	64 dBA	MA	71 dBA	+7 dBA
Lilac Road	Cypress Street to Sierra Rjo	C	64 dBA	MA	71 dBA	+7 dBA
Valley Center Road	Lilac Road to Indian Creek Road	C	64 dBA	MA	71 dBA	+7 dBA
San Pasqual Valley	Birch Street to Bear Valley Road	C	64 dBA	MA	71 dBA	+7 dBA
Bear Valley Road	Boyle Street to San Pasqual Road	C	64 dBA	MA	71 dBA	+7 dBA
SR-67	Sycamore Road to Willow Street	C	64 dBA	PA	77 dBA	+13 dBA
Dehesa Road	Granite Hills Road to Sycuan Casino	C	64 dBA	MA	71 dBA	+7 dBA
Campo Road	Jamacha Road to Melody Street	C	64 dBA	MA	71 dBA	+7 dBA
Jamacha Boulevard	Whitestone Street to Campo Road	C	64 dBA	MA	71 dBA	+7 dBA
Otay Lakes Road	Wueste Road to Campo Road	C	64 dBA	MA	71 dBA	+7 dBA
I-15	Countywide	8F	82 dBA	10FHOV	83 dBA	+1 dBA

(1) Sound level at 100 feet from roadway centerline.
C = Collector, MA = Major Arterial, 8F = 8-Lane Freeway, 10FHOV= 10 Lane Freeway with HOV lanes, PA = Prime Arterial, dBA = A-weighted decibel, CNEL = Community Noise Equivalent Level, SR = State Route
Source: DPLU GIS 2008; PBS&J 2009

Table 2.11-17. Roadway Segments New Roads (not in Existing Conditions)

Roadway	Segment	Future Class	Future CNEL[(1)]
Foothill Tollway	I-5 to Christianos Road	4F	79 dBA
SR-125	SR-54 to San Miguel Ranch Road	8F	82 dBA
SR-125	Otay Valley Road to SR-905	8F	82 dBA
SR-11	SR-905 to border with Mexico	4F	79 dBA
SR 680	Black Mountain Road to Dove Canyon	MA	71 dBA

(1) Sound level at 100 feet from roadway centerline.
MA = Major Arterial, 4F = 4-Lane Freeway, 8F = 8-Lane Freeway, dBA = A-weighted decibel, CNEL = Community Noise Equivalent Level
Source: DPLU GIS 2008; PBS&J 2009

Table 2.11-18. Typical Construction Equipment Noise Levels

Equipment	Typical Noise Level (dBA) at 50 feet from source
Air Compressor	81
Backhoe	80
Compactor	82
Concrete Mixer	85
Crane, Derrick	88
Dozer	85
Grader	85
Jack Hammer	88
Loader	85
Paver	89
Pile-driver (Impact)	101
Pump	76
Roller	74
Scraper	89
Truck	88

Source: EPA 1971

Table 2.11-19. Designated Noise Sensitive Land Uses within the 60 dBA Annual CNEL Noise Contour of a Public Use Airport

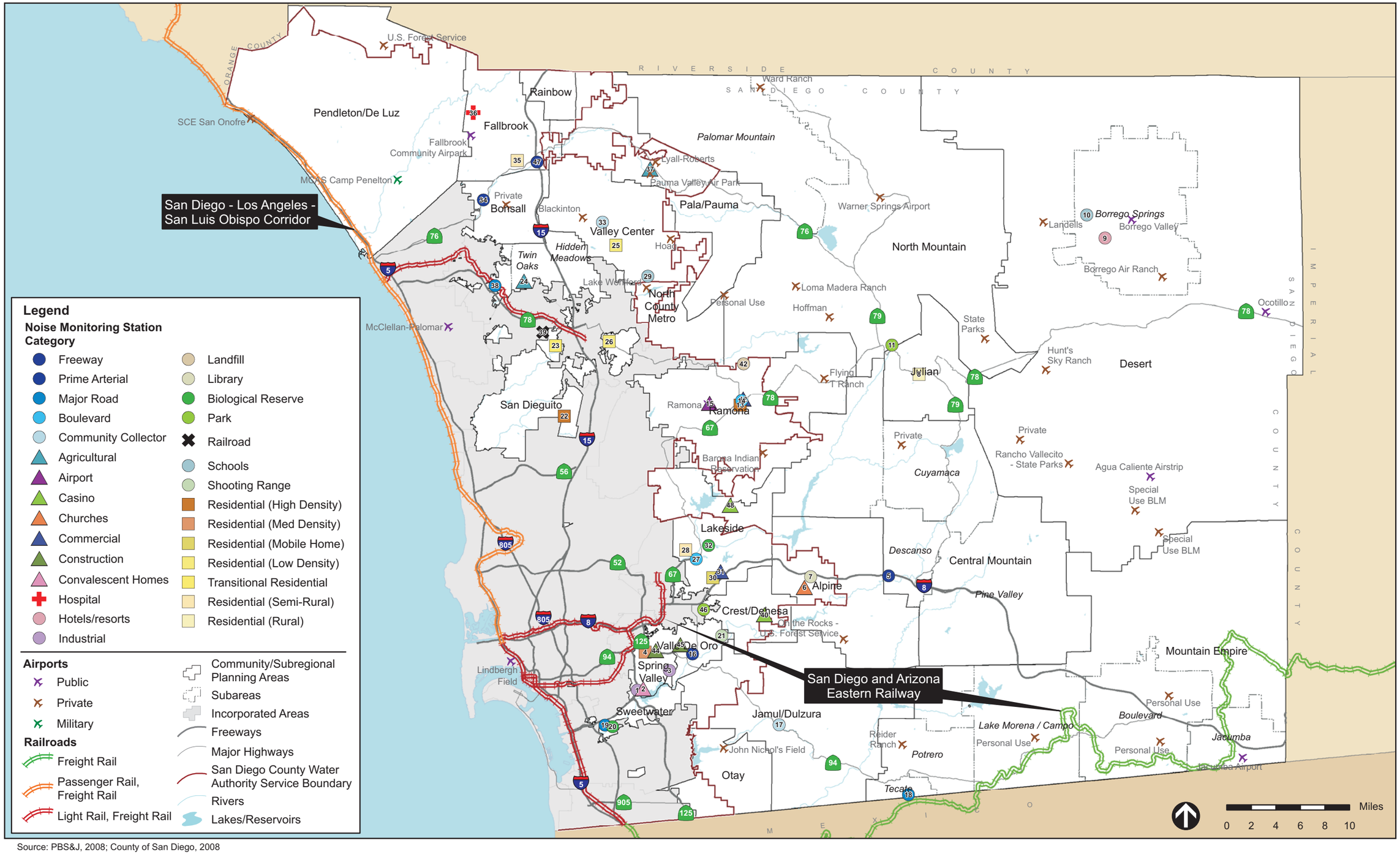
CPA or Subregion	Airport	Acres
Desert	Borrego Airport	152
Lakeside	Gillespie Field Airport	<1
Ramona	Ramona Airport	1,497
Countywide Total		**1,650**

Note: Designated noise sensitive land uses are land uses designated under the General Plan Update that may accommodate development of noise sensitive land uses, primarily residential uses, public and private educational facilities, hospitals, convalescent homes, hotels/motels, daycare facilities, and passive recreational parks. The entire acreage would not necessarily be developed with noise sensitive land uses. Data has been rounded to nearest whole number.
Source: DPLU GIS 2008

Table 2.11-20. Designated Noise Sensitive Land Uses within Two Miles of a Private Airstrip

CPA/Subregion	Airport(s)	Acres
Alpine	On the Rocks - U.S. Forest Service	6,414
Central Mountain	Flying T Ranch	76
Desert	Agua Caliente Airstrip, Borrego Air Ranch, Hunt's Sky Ranch, Ocotillo, Rancho Vallecito - State Parks, Special Use BLM	54,228
Jamul/Dulzura	John Nichol's Field, On the Rocks - U.S. Forest Service, Reider Ranch	2,871
Lakeside	Barona Indian Reservation	238
Mountain Empire	Jacumba Airport, Personal Use, Reider Ranch, Special Use BLM	37,820
North County Metro	Blackinton, Lake Wohlford, Personal Use	6,226
North Mountain	Hoffman, Hunt's Sky Ranch, Loma Madera Ranch, Personal Use, Ward Ranch, Warner Springs Airport, Lyall-Roberts	33,500
Otay	Brown Field, John Nichol's Field	7,496
Pala/Pauma Valley	Lyall-Roberts, Pauma Valley Air Park, Personal Use	17,695
Ramona	Barona Indian Reservation, Flying T Ranch, Hoffman	16,698
Valley Center	Blackinton, Lake Wohlford, Lyall-Roberts, Pauma Valley Air Park	12,153
Total		**195,415**

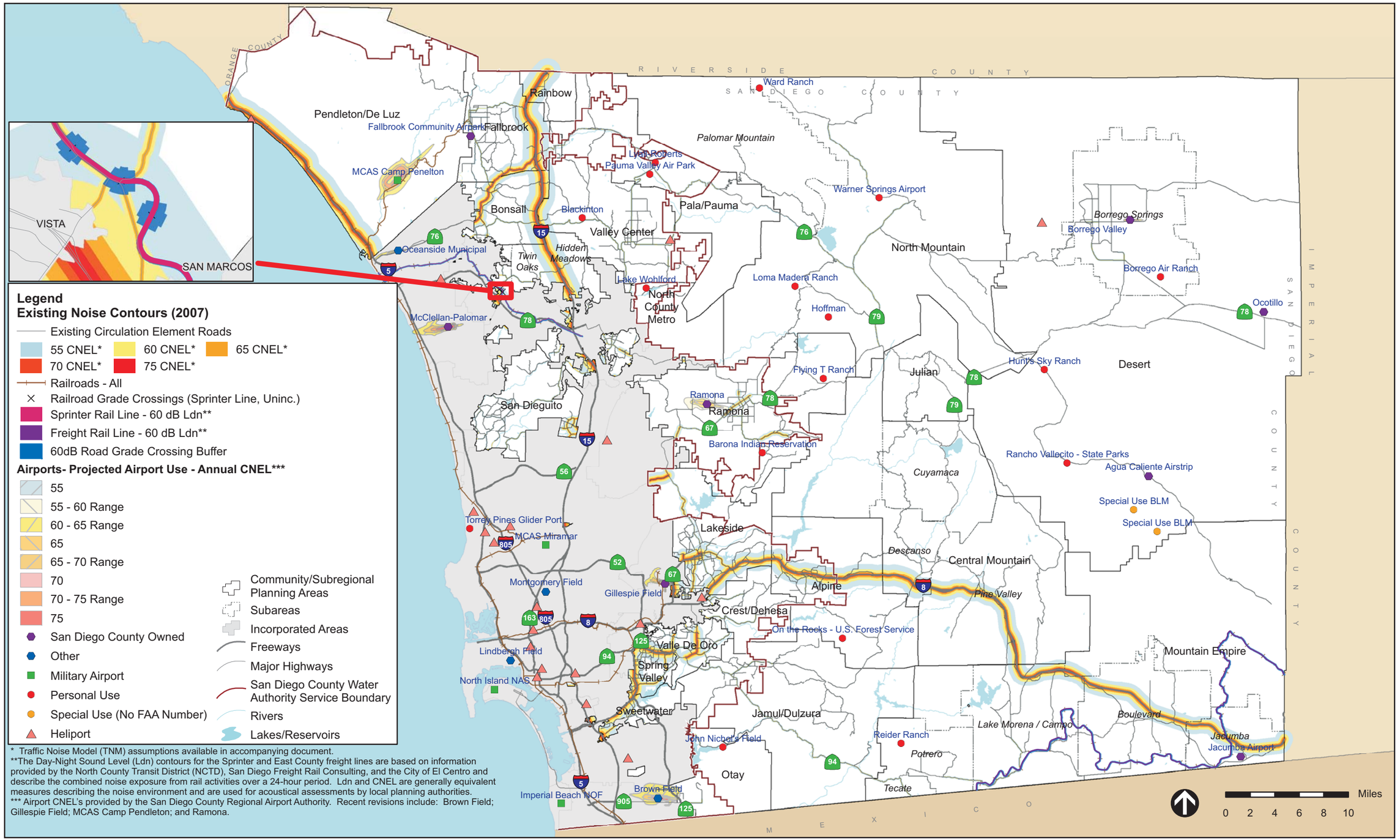
Note: Designated noise sensitive land uses are land uses designated under the General Plan Update that may accommodate development of noise sensitive land uses, primarily residential uses, public and private educational facilities, hospitals, convalescent homes, hotels/motels, daycare facilities, and passive recreational parks. The entire acreage would not necessarily be developed with noise sensitive land uses. Data has been rounded to nearest whole number.
Source: DPLU GIS 2008



Source: PBS&J, 2008; County of San Diego, 2008

COMMUNITY NOISE SURVEY LOCATIONS

FIGURE 2.11-1



Legend
Existing Noise Contours (2007)

- Existing Circulation Element Roads
- 55 CNEL*
- 60 CNEL*
- 65 CNEL*
- 70 CNEL*
- 75 CNEL*
- Railroads - All
- Railroad Grade Crossings (Sprinter Line, Uninc.)
- Sprinter Rail Line - 60 dB Ldn**
- Freight Rail Line - 60 dB Ldn**
- 60dB Road Grade Crossing Buffer

Airports- Projected Airport Use - Annual CNEL***

- 55
- 55 - 60 Range
- 60 - 65 Range
- 65
- 65 - 70 Range
- 70
- 70 - 75 Range
- 75
- San Diego County Owned
- Other
- Military Airport
- Personal Use
- Special Use (No FAA Number)
- Heliport

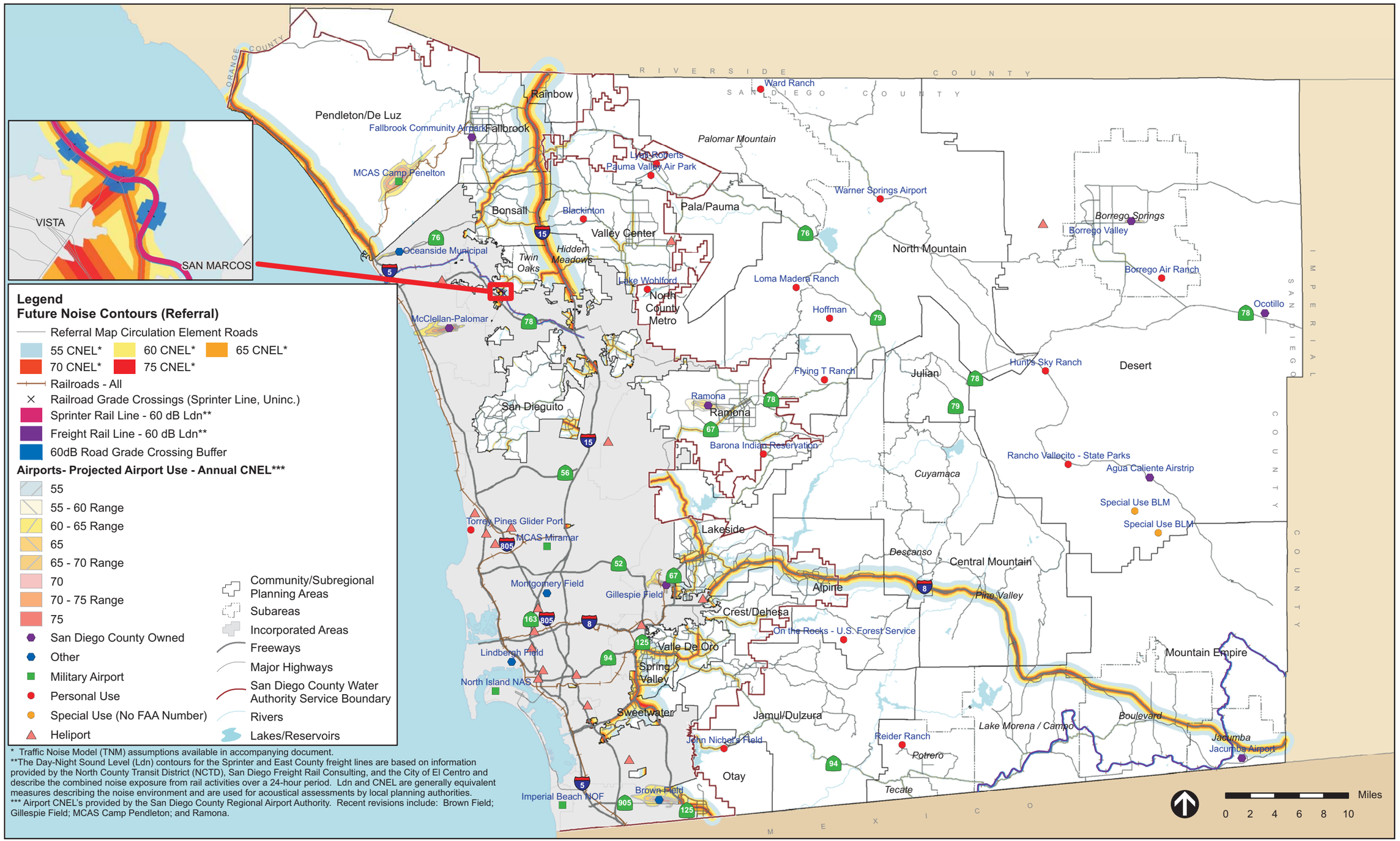
- Community/Subregional Planning Areas
- Subareas
- Incorporated Areas
- Freeways
- Major Highways
- San Diego County Water Authority Service Boundary
- Rivers
- Lakes/Reservoirs

* Traffic Noise Model (TNM) assumptions available in accompanying document.
**The Day-Night Sound Level (Ldn) contours for the Sprinter and East County freight lines are based on information provided by the North County Transit District (NCTD), San Diego Freight Rail Consulting, and the City of El Centro and describe the combined noise exposure from rail activities over a 24-hour period. Ldn and CNEL are generally equivalent measures describing the noise environment and are used for acoustical assessments by local planning authorities.
*** Airport CNEL's provided by the San Diego County Regional Airport Authority. Recent revisions include: Brown Field; Gillespie Field; MCAS Camp Pendleton; and Ramona.

Source: PBS&J, 2008; County of San Diego, 2008

EXISTING NOISE CONTOURS

FIGURE 2.11-2



Legend
Future Noise Contours (Referral)

- Referral Map Circulation Element Roads
- 55 CNEL*
- 60 CNEL*
- 65 CNEL*
- 70 CNEL*
- 75 CNEL*
- Railroads - All
- Railroad Grade Crossings (Sprinter Line, Uninc.)
- Sprinter Rail Line - 60 dB Ldn**
- Freight Rail Line - 60 dB Ldn**
- 60dB Road Grade Crossing Buffer

Airports- Projected Airport Use - Annual CNEL***

- 55
- 55 - 60 Range
- 60 - 65 Range
- 65
- 65 - 70 Range
- 70
- 70 - 75 Range
- 75
- San Diego County Owned
- Other
- Military Airport
- Personal Use
- Special Use (No FAA Number)
- Heliport

- Community/Subregional Planning Areas
- Subareas
- Incorporated Areas
- Freeways
- Major Highways
- San Diego County Water Authority Service Boundary
- Rivers
- Lakes/Reservoirs

* Traffic Noise Model (TNM) assumptions available in accompanying document.
**The Day-Night Sound Level (Ldn) contours for the Sprinter and East County freight lines are based on information provided by the North County Transit District (NCTD), San Diego Freight Rail Consulting, and the City of El Centro and describe the combined noise exposure from rail activities over a 24-hour period. Ldn and CNEL are generally equivalent measures describing the noise environment and are used for acoustical assessments by local planning authorities.
*** Airport CNEL's provided by the San Diego County Regional Airport Authority. Recent revisions include: Brown Field; Gillespie Field; MCAS Camp Pendleton; and Ramona.

Source: PBS&J, 2008; County of San Diego, 2008

FUTURE NOISE CONTOURS

FIGURE 2.11-3